

# **The Impact of Data Restrictions on Consumer Distance Shopping: Summary**

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More than 57 percent of American consumers bought clothing from catalogs and more than 11 percent purchased clothing over the Internet last year. Those who value the convenience of “distance shopping” often purchase apparel to enjoy significant savings in both time and cost. Many of the benefits and savings offered to consumers are the result of available customer information that allows companies to manage marketing and advertising costs and target people most interested in specific products.

This study examines the potential consequences of enacting legislation prohibiting the free flow of information on two segments of the \$200 billion U.S. apparel industry, the catalog and online retail markets. The survey shows:

**Data restrictions increase the cost of doing business and raise costs to consumers.**

Restricting the use consumer information would increase the total costs of catalog or online apparel retailer by 3.5 to 11 percent. Smaller firms would have a more difficult time bearing the additional cost. Firms forced out of business would dampen competition and could cause additional price increases to consumers.

**Consumers would bear a \$1 billion burden from the disruption of routine information and data flow.** Catalog and online merchants, faced with already narrow profit margins, would be forced to pass along this increase to consumers, adding \$1 billion to the current price paid for apparel.

**Inner city and rural catalog shoppers would suffer the greatest harm.** Independent studies by PricewaterhouseCoopers and Elrick & Lavidge show that inner city and rural residents are most dependent on catalog and online shopping. Inner city neighborhoods are underserved by brick-and-mortar retailers, while rural consumers live farther from malls and shopping centers. They would be hit disproportionately by the extra costs.

**Opt-in favors larger firms with name recognition.** Consumers required to give affirmative consent are more likely to give it to familiar companies. This further imperils smaller companies and new entrants in the marketplace and threatens to reduce competition that benefits consumers.

Like electricity during the industrial revolution, information flows through the New Economy unseen and unheard. The uses of information are so ubiquitous that they are taken for granted, and little understood. This study focuses on one narrow segment of a larger retail sector, examines specific costs and benefits, “runs the numbers” and illuminates the costs to consumers of a disruption in information flow.



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# The Impact of Data Restrictions on Consumer Distance Shopping

Note: This study was conducted by the Information Services Executive Council (ISEC), an industry segment group of the Direct Marketing Association, and sponsored by the Privacy Leadership Initiative (PLI).

## Executive Summary

Last year, more than 57 percent of American consumers bought clothing from catalogs and more than 11 percent bought clothing over the Internet. The choices these consumers made indicate how much they appreciate the convenience, selection and prices they receive from “distance shopping.” But distance shopping – like other forms of commerce -- depends on the flow of information between consumers and retailers.

Those who value the convenience of distance shopping often purchase apparel products to enjoy significant savings in both time and cost. The information collected from consumers makes the completion of purchases possible. One can order over the phone or via the Internet, pay by credit card, and have a purchase delivered to your home. That exchange of information also makes it possible for the merchant to alert the consumer to new purchasing opportunities that the data indicates is probably of interest to them, often at discount prices.

Catalog and Internet merchants must understand their customers to make the right decisions on the products their customers want to buy, and who else might be interested in their products. Catalogers and Internet merchants do this by taking their house list of customers, enhancing those files with demographic information --- like age --- from third parties, and then analyzing that information so they can understand the types of individuals who buy from them.

Once they understand their customer files, they use third party lists to market to similar consumers. While the bulk of a cataloger’s databases are data generated from their relationship with their customers, it is the third party data that makes it possible for them to understand their customers and find new customers. It is through this use of data --- both house files and third party --- that makes it possible for catalog and Internet apparel retailers to offer savings and other benefits by reducing their marketing and advertising costs. That reduction in marketing costs would not be possible if the merchant were dependent only on in-house or third party data. It is only the understanding that comes from using both that makes the savings possible.

Opt-in restrictions to third party demographic information, like the federal Drivers Privacy Protection Act, significantly reduces the ability of marketers to understand their customers. Should additional restrictions – such as some type of full or partial opt-in requirement for external and/or internal information - be placed on the ability to use this data, one thing is clear: Consumers will pay the consequences. In fact, estimates show that **restrictions of this kind would impose a \$1 billion “information tax” on catalog and Internet apparel consumers**, the result of retailers passing on increased costs ranging from 3.5 to 11 percent. This is a considerable economic loss in what is a \$15 billion market.

Like electricity flowing through power lines, information moves through the New Economy unseen and unheard, its uses so ubiquitous that it is taken for granted. And like electricity, disrupting the flow would have a major impact on consumers. Today’s consumers have come to expect the benefits of information flow (such as instant credit or rich content media) as they expect an appliance to function once it is connected to an electrical outlet. Unfortunately, the link between the free flow of information and myriad economic efficiencies and consumer benefits is not always apparent.

Although industry has stepped up efforts to inform consumers about what information is being collected and how it is being used, there are state and federal laws that restrict businesses from using certain types of external consumer data for marketing purposes. In this study, we are estimating the cost of such data restrictions, or opt-in requirements, on catalog and Internet apparel retailers. The objective was to focus intensively on these two narrow segments of the \$200 billion industry sector to precisely define cause-effect relationships. That does not mean that the approach used here is non-transferable, given the similar structures of other retail segments that use catalogs, direct mail and the Internet to reach their customers.

The results indicate that restrictions prohibiting the use of routine data would severely limit the ability of catalog and Internet apparel retailers to reach the right consumers, substantially driving up their costs. Retailers use consumer information to understand their customers and figure out which ones should be informed about their products. Because it is too expensive to send information to every household, companies must predict in advance who might be interested. Restricting the use of certain consumer information drives up the cost of this process by 3.5 to 11 percent.

In addition, those consumers who most rely on distance shopping for their clothing – inner city and rural consumers – are least able to afford the price increases that are likely to result from such restrictions. Independent studies from PricewaterhouseCoopers and The Boston Consulting Group show that inner city consumers earn less, spend more on apparel, value unique and trendy fashions more, and are significantly more reliant on catalogs as the primary means of purchasing apparel than the average U.S. household. Restrictions on third-party data would make it harder to reach this already under-served community, and could reduce competition in the inner city as small, boutique

apparel retailers serving that market are forced out of business as a result of the additional costs incurred from data restrictions.

For some new and smaller apparel catalog and Internet retailers, this additional cost may prove too great for them to stay in business. Those companies that survive would almost certainly be forced to pass these additional costs on to consumers. An “information tax” of that size would not only have unfortunate consequences for shoppers, but for the economy as a whole.

## **Methodology**

The report is based on the results of two surveys. The first survey was the current annual survey conducted by the Direct Marketing Association (DMA), which included responses from 16 catalog and Internet retailers of men and women’s apparel. The second survey was conducted by the Information Services Executive Council (ISEC) and focused on apparel retailers alone, including 10 apparel catalog and Internet retailers. The report also makes extensive use of marketing data provided by a large apparel direct marketing company.

## **Key Findings**

**Consumers Would Pay \$1 Billion Information Tax:** American consumers would pay an additional \$1 billion for the same apparel products if opt-in restrictions are placed on routine information and data flow, a result of catalog and Internet apparel retailers passing along additional marketing costs incurred from the restrictions.

**Inner City and Rural Catalog Shoppers Suffer Greatest Harm:** Independent studies (PricewaterhouseCoopers and Elrick & Lavidge) show that inner city and rural residents are most dependent on distance shopping for their apparel needs. Inner city neighborhoods are generally under-served by brick-and-mortar retailers, and rural consumers often live far from the closest mall or retail center. As a result, the \$1 billion information “tax” will hit them disproportionately.

**Restrictions on Third-Party Data Increase the Cost of Doing Business and Raise Costs for Consumers:** Restricting the use of external consumer information would increase the total costs of a catalog or Internet apparel retailer by 3.5 to 11 percent. Smaller firms, that typically have a higher cost structure, may not be able to bear this additional burden. If these firms are forced out of business, their exit from the marketplace will further dampen competition and result in additional price increases for consumers.

**Opt-in Favors Larger Firms With Name Recognition:** If consumers are required to give their affirmative consent before their information can be used by a company, they are more likely to give that consent to firms with significant and

favorable name recognition, based on prior consumer research. This would further imperil small or new companies.

**The Information Tax Would Result in Less Choice for Consumers:** Since marketing costs will likely increase if external opt-in restrictions are put in place, some retailers will be forced to exit the market and other, new companies will be deterred from entry. With a smaller marketplace, competition suffers, giving consumers less choice and higher costs when distance shopping.

## Introduction

Each year in the United States, consumers buy over \$15 billion worth of apparel from catalog and Internet retailers.<sup>1</sup> This method of shopping depends on a flow of information from retailers to consumers and vice versa: consumers need information from retailers about their products, and retailers need information from consumers about which products would interest them. Without this flow of information, it would be impossible for people to shop for apparel from catalogs or over the Internet.

The industry has long recognized the interests of consumers regarding the use of personal information and has worked to further those interests by implementing extensive self regulatory programs and developing consumer-friendly technological solutions. Self regulatory measures include informing consumers about what information is being collected and how it is being used. Further, it is generally accepted as a matter of good policy that consumers should be provided with choice as to the disclosure of use of information for commercial purposes.

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<sup>1</sup> U.S. Census Bureau, *Merchandise Line Sales, 1997 Economic Census*, Issued July 2000, Table 2 reports \$13 billion. Industry experts believe that the growth between 1997 and 2000 was at least 15% given the growth in overall retail sales

A central element in any direct marketing effort is to find out more about existing customers and to identify prospective customers. To do this, a retailer generally obtains information from third parties and from public records. A fundamental type of data that retailers purchase from information service providers is address-standardization, or address-improvement data. It is important to note that “external information” requests are processed in a batch environment, ranging from a few thousand to several million records, by computers, with almost no human intervention and no human analysis of individual records.<sup>2</sup> This data is used to develop mailing lists for use in target marketing campaigns that provide consumers with information about products or services in which they are likely to be interested.

Concern about privacy in general, and the use of external consumer information in particular, has already resulted in laws that prohibit companies from using some types of external consumer information to predict which consumers will be interested in their products or services. For example, the Drivers Privacy Protection Act (DPPA), as amended by Senator Shelby, eliminated access to both age information from drivers licenses, and automobile type from motor vehicle records for commercial purposes. Age, after gender, is one of the most useful demographics in determining consumer interests, while the type of car one drives is very indicative of life style. The DPPA requires consumers to “opt-in” in order for this information to be available to marketers

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<sup>2</sup> For the purposes of this study, “external information” is defined as any data about groups of customers or potential customers purchased from third party sources, such as information service providers or list brokers. “Internal information,” by contrast, is defined as all information provided by a customer to a retailer during the course of a business transaction. For a more complete discussion of information types and the use of internal and external information, see Appendix D.

and advertisers. As of early 2001, not one single state has provided the means for consumers to do so. These same concerns may result in additional laws.

Self regulation and good industry practices have gone a long way toward addressing many of these concerns. However, if any legislation is considered, the costs associated with such legislation must be carefully weighed. These costs may differ depending on the nature of the legislation. This paper focuses on costs associated with legislation that would severely limit or prohibit the use and disclosure of data flows.

The debate about the appropriate use of consumer information has focused on people's interest in privacy and their ability to control the use of their personal information. However, the debate so far has largely ignored the types of benefits people receive when some information about them can be used by organizations in which they would be interested. These benefits are real and are important to millions of American consumers. Last year, for instance, over 57 percent of consumers bought clothing from catalogs and over 11 percent bought clothing over the Internet.<sup>3</sup> The choices of these consumers indicate that they prefer the convenience, selection, and prices of buying apparel from catalogs and the Internet. In the debate surrounding information sharing, it is important to weigh carefully the benefits that would come from increasing the privacy of consumer information against the extra costs that consumers would have to pay if companies could no longer use that information to understand what products appeal to consumers.

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<sup>3</sup> *Direct and Interactive Marketing Buying Practice Study: A Strategic Guide for Expanding Share in the Direct Marketing Marketplace.* Conducted by Elrick & Lavidge Marketing Research. Commissioned by The Direct Marketing Association. Sponsored by the United States Postal Service. October, 1999.

This report analyzes the impact of data restrictions that may be created by some approaches to legislation that would prevent apparel companies from using internal and external consumer information. The report is based on the results of two surveys. The first survey was the current annual survey conducted by the Direct Marketing Association (DMA), which included responses from 16 catalog and Internet retailers of men and women's apparel.<sup>4</sup> The second survey was conducted by the Information Services Executive Council (ISEC) and focused on apparel retailers alone, including 10 apparel catalog and Internet retailers.<sup>5</sup> The report also makes extensive use of marketing data provided by a large apparel direct marketing company.<sup>6</sup>

For purposes of conceptual clarity, this study considers an "opt-in" or affirmative consent approach as tantamount to a data flow restriction. It is well established that gaining affirmative consent from consumers is a difficult and costly proposition irrespective of firm size. For instance, US West (now Qwest Communications), one of the largest and most trusted telecommunications companies in America, recently conducted an affirmative consent trial using call centers and direct mail. The results of this trial are indicative of the difficulties associated with using "opt-in" as a general model. In the US West trial, outbound telemarketing obtained an "opt-in" rate of 29 percent among residential subscribers (targeting a small highly favorable subset of the total subscriber base) and cost \$20.66 per positive response. Direct mail fared much worse,

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<sup>4</sup> Survey conducted during the summer of 2000. For a more detailed discussion of The DMA catalog survey, please see Appendix C.

<sup>5</sup> Survey conducted during June and July of 2000. For a more detailed discussion of the ISEC survey, please see Appendix B.

<sup>6</sup> For competitive reasons, this firm has chosen to remain anonymous, and will be referred to only as "Apparel by Mail" (AM) throughout this study.

receiving a positive response rate between 5 and 11 percent among residential subscribers (depending on the presence and magnitude of an incentive) and cost between \$29.32 and \$34.32 per positive response.<sup>7</sup>

Under certain conditions, an opt-in or affirmative consent requirement for the use of certain types of consumer information for commercial purposes may erect an insurmountable barrier for marketers and advertisers, which, in effect, would result in a prohibition on the use and transfer of consumer data.<sup>8</sup> Again, the Drivers Privacy Protection Act is illustrative of what happens when “opt-in” requirements are mandated.

## **1. How Catalog and Internet Apparel Retailers Use Consumer Information**

Catalog and Internet apparel retailers use consumer information to figure out which consumers should be informed about their products. Because it is too expensive to send information to every household in the country, companies must predict who might be interested in their products without actually asking everyone whether they are interested. Even after using consumer information to locate interested customers, the median apparel catalog retailer in the DMA survey still spends 22 percent of its net sales revenue on catalog production and mailing costs and achieves an average response rate of only 3 percent. Clearly,

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<sup>7</sup> US West provided Ex Parte Comments on September 9, 1997 to the Federal Communications Commission in CC Docket No. 96-115, CC Docket No. 96-149, and WT Docket No. 96-162, highlighting the results from the CPNI affirmative consent trials they ran. They concluded that “opt-in” was not a viable model as it was too costly, too difficult and too time intensive.

<sup>8</sup> There are a range of potential scenarios in which the use of an “opt-in” variant of consumer choice may, in fact, yield the optimal balance of consumer confidence in distance shopping (or engaging in a commercial transaction in general) and economic viability from the perspective of a firm in a particular industry.

if data restrictions lead to a fall in this already low response rate, the viability of catalog and Internet retailing could be seriously jeopardized.

Catalog and Internet retailers typically think about two types of future customers. First, there are people who have purchased from the company in the past, thereby indicating that they are generally interested in the type of products the company provides. These past customers make up what is known as the company's "house list." Second, there are people who have never purchased something from the company. These people are potential customers and are known as the company's "prospects."

With both the company's house list and its prospects, the challenge is to figure out which people would like to buy something from the company in the future. Overall, the past customers on the company's house list are more likely to buy something in the future than an average prospect who has never purchased anything from the company before. However, even with the company's house list, it is likely to be too expensive for the company to send catalogs to the entire list because many past customers may not be interested in making another purchase.

Retailers use consumer information to figure out which people from their house list and which prospects are most likely to purchase an item from the company. With people who are on the company's house list, much of this information has been provided by the people themselves and is derived from their past business relationship with the company. If they have purchased many products over a long period of time, then they are more likely to want something in the future, than if they have made only one purchase in the distant past.

Typically companies also acquire some external information about past customers to understand better which of them would like to purchase something in the future.

In addition, online and offline retailers also use external information to identify common characteristics among existing customers to use as predictors. For instance, if buyers of steel-toed boots also buy baseball tickets or are sports enthusiasts, then the boot retailer would likely buy lists of subscribers to sports magazines like *Sports Illustrated*, and would serve banner ads on Web sites like ESPN.com. In fact, 7 of the 10 respondents to the ISEC survey reported that they use external consumer information in this way. This additional information may include such items as the customer's age range or automobile type. In addition to helping retailers identify groups of consumers most likely to make purchases in the future, external information also allows retailers to reduce their catalog production, advertising and mailing costs by deciding that some groups of past customers are unlikely to make any future purchases. For example, if age is highly indicative of buyers, marginal customers (those who used to buy have stopped), no longer in the age range of median buyers, might be removed from the list.

For prospective customers, retailers often rely totally on external information that has not been provided directly to them by the consumer.

Apparel catalog retailers, for example, often use lists of customers from other catalog companies or lists of magazine subscribers.<sup>9</sup> By choosing the type of list

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<sup>9</sup> Lists of customers from catalog retailers are compiled by companies such as the Colorado-based Abacus Corporation, a division of DoubleClick. This data is known as "cooperative data" and is a highly effective means of understanding consumer preferences. It should be noted that the large apparel retailer that is the focus of this study does not use cooperative data. As such,

they use, retailers are able to locate prospective customers who are more likely to be interested in their products. One way retailers do this is by enhancing their house file with demographics like age, home ownership, and the presence of children from outside sources. With the benefit of this external information it is possible to analyze their customers to identify the most accurate predictive variables. Retailers then purchase outside lists of consumers who share these attributes. It is worth reiterating that these lists are not detailed profiles of individuals, but rather are lists of thousands or millions of individuals with common attributes such as age range or home ownership.

Section 2 analyzes the way restrictions on the use of external and internal information would increase catalog mailings to consumers on an apparel company's house list. Section 3 analyzes the way these different restrictions would increase catalog mailing to prospective apparel customers. Section 4, then, analyzes the additional costs that would result if data restrictions increased the level of catalog mailing necessary to reach apparel customers. Section 5 discusses Internet apparel retailing and the likely impact of data restrictions on shopping online. Finally, section 6 summarizes the report's conclusions about the impact of privacy restrictions on consumers who buy apparel from catalogs and the Internet.

## **2. The Impact of Data Restrictions on Catalog Mailing to Past Customers on a Company's House List**

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the impact of restrictive legislation will be less severe for Apparel by Mail (AM) than on other firms that rely on this extremely valuable source of external information. This is one reason why the 3.5 to 11 percent estimated price increase may be conservative. [The estimate of 3.5 to 11 % is

Companies use information about past customers to predict which of them are most likely to order products in the future, thus reducing catalog production and mailing costs. This saves the company's customers money in turn, because it lowers costs and thereby allows lower apparel prices than would be otherwise possible. This section analyzes how data restrictions that limit the use of internal and external consumer information would increase the number of catalogs mailed to a company's house list.

Catalog companies typically use customer information to divide their customers into different groups and rate how interested each group is in the company's products. Table 2 presents the results of such an analysis for a large apparel catalog retailer, which we will refer to as Apparel by Mail (AM).<sup>10</sup> The quantitative analysis is triggered by the following range of scenarios:<sup>11</sup>

- "Opt-in" for external information.
- "Opt-in" for affiliate sharing of internal information.
- "Opt-in" for internal and external information.
- Prohibition on maintenance of housefile (online and offline).

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explained on pages 25 and 26.] An additional reason, discussed below, concerns the impact of reduced demand generated by the price increase.

<sup>10</sup> The predictive model employed by AM makes use of multivariate regression analysis and complex algorithms to establish statistically significant correlations. Factors such as the timing of a purchase (recency), how often a purchase is made by a customer (frequency), and the cash value of a transaction (money) are among the variables used to predict which existing customers are most likely to make purchases in the future. The sample size for AM's analyses exceeds 25 million unique individuals. This model has been in constant use nearly a decade. See Appendix A for a more complete discussion of AM's predictive model.

<sup>11</sup> "Opt-in" and "opt-out" are two ideal-types of "choice" for consumers. Under the "opt-in" scenario, any information gathered about a consumer during the course of a routine business transaction could only be rented to, sold to or shared with a third party if the consumer, after having been notified about the potential use of their personal identifying information, provides his/her affirmative consent. The default, in this scenario, would be negative. The "opt-in" scenario, on the other hand, stipulates that after having been provided full notice about the collection and potential uses of his/her personal identifying information, the information collected about an individual by an organization may be rented to, sold to, or shared with a third party unless the consumer indicates otherwise. The default under this scenario is positive. For a more thorough discussion of opt-in v. opt-out, see: "Protecting Privacy in the New Millennium: The Fallacy of Opt-In," by Professors Fred Cate (Indiana University) and Michael State (Georgetown University); or *Visions of Privacy: Policy Choices for the Digital Age*. Bennett, Colin J. and Rebecca Grant. Toronto, University of Toronto Press, 1999. See especially pages 156, 157, 182, 207, 210, 225.

In this case, AM has divided its house list into 10 groups of equal size, each with 10 percent of the company's current and past customers. The company has used a statistical model to predict how much each customer is likely to purchase in the future based on their past behavior. Model results are then used to order the customers from the ones who are likely to buy the most to those who are likely to buy the least.

**Table 2. Choosing Customers on the House List with Internal and External Information**

Group	Cumulative Percent of House List	Percent of Total Possible House List Sales	Cumulative Percent of Total Possible House List Sales
1	10%	45.1%	45.1%
2	20%	18.5%	63.5%
3	30%	11.0%	74.5%
4	40%	7.9%	82.4%
5	50%	6.0%	88.4%
6	60%	4.5%	92.9%
7	70%	3.2%	96.1%
8	80%	2.0%	98.1%
9	90%	1.2%	99.3%
10	100%	0.7%	100.0%

With a statistical analysis like the one summarized in Table 2, a company can reduce its catalog production and mailing costs substantially and still reach most of the people who are interested in its products. For example, if AM were to send catalogs to only the top 30 percent of its customers from this analysis, it would still be able to reach about 75 percent of total possible sales for its house list. In fact, AM usually sends catalogs to the top 60 percent of its house list, resulting in about 93 percent of total possible sales.

Laws that would limit the use of external and internal information on past and current customers will make it much more difficult for companies to predict which of the customers on their house list are interested in buying their products in the future. This section analyzes the impact of potential restrictions related to the use of internal and external information on the amount of catalog mailings that AM would need to make to maintain its current level of sales.

The least restrictive data laws would limit only the use of external information. As mentioned earlier, AM would use external data to identify additional characteristics that are common among heavy buyers and missing from less active buyers. For AM, those characteristics include age, modeled income, and type of automobile owned by the customer. Table 3 shows a version of Table 2 in which the predictive power of the statistical analysis has been reduced by 20 percent.<sup>12</sup> This is the impact that AM estimates would result if privacy laws prevent the company from using external consumer information – such as a consumer’s age or vehicle – to predict the consumer’s interest in buying apparel from the company in the future.

**Table 3. Choosing Customers on the House List with only Internal Information**

Group	Cumulative Percent of House List	Percent of Total Possible House List Sales	Cumulative Percent of Total Possible House List Sales
1	10%	38.0%	38.0%
2	20%	16.8%	54.8%
3	30%	10.8%	65.6%

<sup>12</sup> Apparel by Mail estimates that approximately 80 percent of the explanatory power of their predictive model is derived from data contained in their house file. Such variables as the date of purchase, the amount of a purchase, how often an individual makes a purchase, gender, zip code, and age are all contained within their house file. Thus, eliminating external information would reduce the predictive power of AM’s model by approximately 20 percent.

4	40%	8.3%	73.9%
5	50%	6.8%	80.7%
6	60%	5.6%	86.3%
7	70%	4.6%	90.9%
8	80%	3.6%	94.5%
9	90%	3.0%	97.4%
10	100%	2.6%	100.0%

With the data law restricting the use of external information, AM would be able to reach only 86 percent of the total possible sales by sending catalogs to the top 60 percent of its customer list. This total is reduced from 93 percent because the company now lacks some information that would allow it to determine which people are more likely to be interested in the company's products. As a result, some of the more interested people are mistakenly placed in the low-interest groups while some of the less interested people are mistakenly placed in the high-interest groups.

To maintain its level of sales to its past customers, AM would need to send catalogs to more than the top 60 percent of its house list. In this case, the statistical model without external information shows that AM would have to send catalogs to the top 76 percent of its past customers in order to maintain 93 percent of total possible sales to its house list. This represents a 27 percent increase in catalog mailing to AM's house list.

The increase in mailings required to maintain sales to the house list would be even larger if the data law also restricts the use of internally-gathered information. Restrictions on the use of internally-gathered information could take two forms. One possible form, let's call it "opt-in for affiliate sharing," would allow AM to mail to its house list, but not to use internal information to target high

interest customers.<sup>13</sup> In other words, a firm would not be able to use information on customers who purchased one product in order to cross-promote any of their other products. Under this scenario, a computer catalog retailer (or any retailer) could not send information on upgrades or ancillary products to a past customer. With respect to the catalog apparel retail case examined in this study, AM would need to send catalogs to 93 percent of its past customers to maintain 93 percent of total possible sales to its house list. This would represent a 55 percent increase in catalog mailing to AM's house list.

A second, more restrictive form – however unlikely and one that's not realized today -- would forbid AM from maintaining a house list at all. In this case, catalog retailers would essentially be forced to send out prospect catalogs to everyone, whether they are likely to be interested in the company's products or not. At a minimum, this would reduce AM's response rate from the 4 to 5 percent that it currently achieves on mailings to its house list to the 2 percent rate that it achieves on mailings to prospective customers. To compensate for this much lower response rate, AM would have to increase its catalog mailings by 100 percent or more. Even worse, as described in section 3, below, without the ability to use external information to effectively target high interest prospective customers, the response rate for these mailings would drop even further.

### **3. The Impact of Data Restrictions on Catalog Mailing to Prospective Customers**

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<sup>13</sup> While this may seem an implausible development, it is not impossible scenario given, for example, the new data restrictions on financial service institutions and telecommunications companies using in-house data in their own and their affiliates' offerings. In addition, a similar bill has been introduced in Congress by Senator Hollings (D – S.C.).

The impact of data restrictions on catalog mailing to prospective customers can be analyzed within the same framework used in section 2 to analyze the impact on catalog mailing to past customers. There are several differences, however. First, in principle there are many more names on the full prospect list than on the full house list because every adult in the country could be considered to be a prospective customer. In practice, however, companies do not usually use the full list of all potential prospects. Instead, companies focus on identifying only the better prospects. Usually this is done with an outside list that identifies people who have purchased from another catalog company or have subscribed to a particular magazine. In using this outside list, the company is assuming that those people are more interested in its products than the average consumer. As the reader will recall, using external information, AM has analyzed its customer file and seeks to acquire outside lists of consumers who share the same attributes as AM's most valued existing buyers. If there was no value added from predictive modeling, then the company could simply send out its catalog randomly and would not need to pay for either the external information used to analyze its own customer list, or for lists of consumers with attributes identified through the analysis of its housefile.

A second important difference between the prospect and house list analyses is that the prospect list contains much less information than the house list. For its house list, the company is able to see which customers have bought recently, what they purchased, how often they purchased and how much they spent. This type of information provides a good indication of the people who will be interested in its products in the future. Years of evidence from database

marketing indicates that transaction information --- actual behavior --- is always more predictive than demographic information. This internal information, for example, provides about 80 percent of the predictive power in the AM statistical model. In contrast, the external information – which is the type of information available for prospective customers – provides only 20 percent of the AM statistical model’s predictive power.

Table 4 shows a version of Table 2 in which the predictive power of the statistical analysis is reduced by 80 percent.<sup>14</sup> This table shows the benefit of using external information for identifying consumers who are most likely to want a particular good or service. In this case, information is being eliminated from the model not because of data restrictions, but because the use of internal information is being controlled for. In short, the table below calculates the “lift” derived from the use of third party data for prospect marketing.<sup>15</sup>

**Table 4. Choosing Customer Prospects with only External Information**

Group	Cumulative Percent of House List	Percent of Total Possible Prospect Sales	Cumulative Percent of Total Possible Prospect Sales
1	10%	17.0%	17.0%
2	20%	11.7%	28.7%
3	30%	10.2%	38.9%
4	40%	9.6%	48.5%
5	50%	9.2%	57.7%
6	60%	8.9%	66.6%
7	70%	8.6%	75.2%
8	80%	8.4%	83.6%
9	90%	8.2%	91.9%
10	100%	8.1%	100.0%

<sup>14</sup> See Footnote 10.

<sup>15</sup> This is not an example of restrictions on internal data. It is assumed that AM, or any catalog or Internet apparel retailer, would use the results of an analysis of its own housefile to identify common attributes shared by its most valuable customers to guide decisions about specific types of third party data that will be acquired to enhance the response rate among prospective customers (known in the industry as “lift”).

If catalogs are sent to the top 10 percent of households – chosen with a model using only external information – Table 4 shows that a company would achieve 17 percent of the possible prospect sales from sending to all households in the country. However, if data laws limit the use of external information, then it will no longer be possible to target prospective customers who are likely to be interested in the company’s products. Without this information, a catalog mailing to 10 percent of U.S. households would produce only 10 percent of the possible prospect sales from sending to all households. With a data restriction, it would be necessary to mail catalogs to 17 percent of U.S. households in order to achieve 17 percent of all possible prospect sales. Thus, limiting the use of external information for targeting high interest prospective customers would require a 70 percent increase in the number of catalogs mailed to prospective customers in order to reach the same number of prospective buyers who are interested in the company’s products. As discussed earlier, this is not a hypothetical scenario. The Drivers Privacy Protection Act has already restricted access to the age and vehicle information that gives “lift” to AM’s marketing.

The median apparel catalog company in the DMA survey sends out 19 million copies per year of its flagship catalog. In the next section, we estimate that about half of these copies are sent to prospects. Thus the median apparel catalog company sends out roughly 10 million copies of its flagship catalog to prospective customers each year. With slightly over 100 million households in

the U.S.,<sup>16</sup> the median apparel catalog company can send prospect catalogs to roughly 10 percent of U.S. households each year.

#### **4. The Cost and Impact of Data Restrictions from Increased Catalog Mailing to House List and Prospective Customers**

The increase in total catalog mailing resulting from privacy restrictions will depend on the mix of increased mailing to house list and prospective customers. The current catalog mailing mix can be estimated from the relative sales derived from the two types of customers combined with their relative response rates.

In the DMA survey, the median apparel catalog retailer receives 67.0 percent of its net sales from its house list and the remainder from new customers. However, this net sales mix is likely to be different than the catalog mailing mix because house list customers have a higher response rate than prospects. As mentioned in section 2, AM reports that its response rate on house list mailings is 4-5 percent, whereas its response rate on prospect mailings is 2 percent. Thus, the response rate for house list mailings is about twice as high as the response rate for prospect mailings. With twice the sales revenue from the house list and twice the response rate from the house list, one can conclude that a median apparel catalog retailer splits its catalog mailing roughly equally between the house list and prospects.

The analysis in section 2 shows that data restrictions would require apparel catalog retailers to increase their house list mailings by 27 percent if only external information were limited and more than 100 percent if both external and

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<sup>16</sup> U.S. Census Bureau, *Statistical Abstract of the United States: 1999*, Table 70.

internal information were restricted. The analysis in section 3 shows that restrictions on internal data would require apparel catalog retailers to increase their prospect mailings by 70%. Assuming current apparel catalog mailing is split equally between house list and prospect mailing, then the overall level of catalog mailing would need to increase by 49% if restrictions prevent the use of external consumer data. If restrictions prevent the use of internal consumer information as well, then overall catalog mailing could increase by more than 100%.

The resulting catalog cost increase could be lower than these figures indicate, however, since catalog and mailing costs do not usually increase proportionately as the number of catalogs is increased. This is because there are fixed costs of preparing the copy and pictures for a catalog and there are usually volume discounts for printing and mailing large quantities of catalogs. Table 5 shows the way catalog and mailing costs change for AM with the number of catalogs mailed.

**Table 5. Catalog and Mailing Cost for Different Numbers of Mailed Catalogs**

Cumulative Percent of Total Catalog List	Cumulative Percent of Catalog Cost
10%	25.0%
20%	43.5%
30%	57.0%
40%	67.7%
50%	76.9%
60%	84.4%
70%	90.5%
80%	95.0%
90%	97.9%
100%	100.0%

AM currently mails catalogs to 60 percent of the names on its overall list.<sup>17</sup> If data restrictions make it necessary to increase the number of catalogs by 49 percent, then the mailing size will need to increase to 89 percent of its overall list. This will increase mailing costs from 84.4 percent of the cost of mailing to the whole list to 97.6 percent of that cost. This is a catalog mailing cost increase of about 16 percent. Since the median apparel catalog retailer spends 22 percent of its net sales revenue on catalog production and mailing costs, a catalog mailing cost increase of 16 percent would increase overall costs by 3.5 percent of net sales.

It is possible that not all catalog companies achieve the same savings in catalog costs as they increase the number of catalogs mailed. As an upper bound on the cost of data restrictions, it is useful to consider the possibility that companies do not achieve any volume savings on catalog production and mailing costs. Given the structure of volume discounts for printing and shipping, this would be the likely scenario for both the very small and the very large apparel catalog retailers.<sup>18</sup> In this case, data restrictions would make it necessary to

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<sup>17</sup> AM's analysis of its house file over time has led it to conclude that past customers who fall into the last four deciles (the bottom 40 percent according to Recency, Frequency and Money criteria) have a response rate below 2 percent. As a result of diminishing marginal returns, AM only mails catalogs to the top six deciles in its house file and relies on external information (prospect lists) to generate the rest of its revenues with an expected response rate of 2 percent. Thus, to accomplish half the net sales revenues using external information, AM must mail an equal number of catalogs to both prospects and extant customers in the top six deciles.

<sup>18</sup> For large volume catalogers, an increase in mailing size is unlikely to result in decreasing marginal costs per unit mailed as all volume discounts for mailing/shipping/printing were long since realized. For very small catalog retailers, similarly, an increase in their mailing size by a margin under 100 percent is unlikely to enable them to actualize the shipping/mailling/printing discounts enjoyed by medium- and large-sized catalog retailers. In other words, increasing a mailing from 5,000 to 7,500 units doesn't qualify for a the discount enjoyed by a cataloger that runs mailings in the 500,000 to several million

increase the 22 percent of net sales revenue spent on catalogs by a full 49 percent. This would increase overall costs by 11 percent of net sales.<sup>19</sup>

Earlier it was noted that consumers buy an estimated \$15 billion worth of apparel from catalog and Internet retailers. The estimated range of additional costs of 3.5% to 11% of net sales translates into \$525 million to \$1.65 billion per annum. We have adopted a lower estimate of \$1 billion for this report, but as pointed out in footnote 9, this is probably an overly conservative estimate of the true risk of additional costs.

Apparel catalog companies could respond to this increase in costs in two different ways. They could pass it forward to customers or pass it backwards to suppliers of labor (its workers), of capital (its shareholders or owners), or of other factor inputs. Although the actual incidence of the costs depends on many factors, in most markets the cost increase is most likely to be passed forward to customers rather than backwards to the shareholders or suppliers. On the supply-side, there are several reasons to believe that the costs would most likely be passed forward to customers. First, in reasonably competitive markets, most of the increased costs of business like these are usually passed forward to customers.<sup>20</sup> Second, profit margins for many apparel catalogers are low enough so that if most of the increased costs could not be passed on to customers, the

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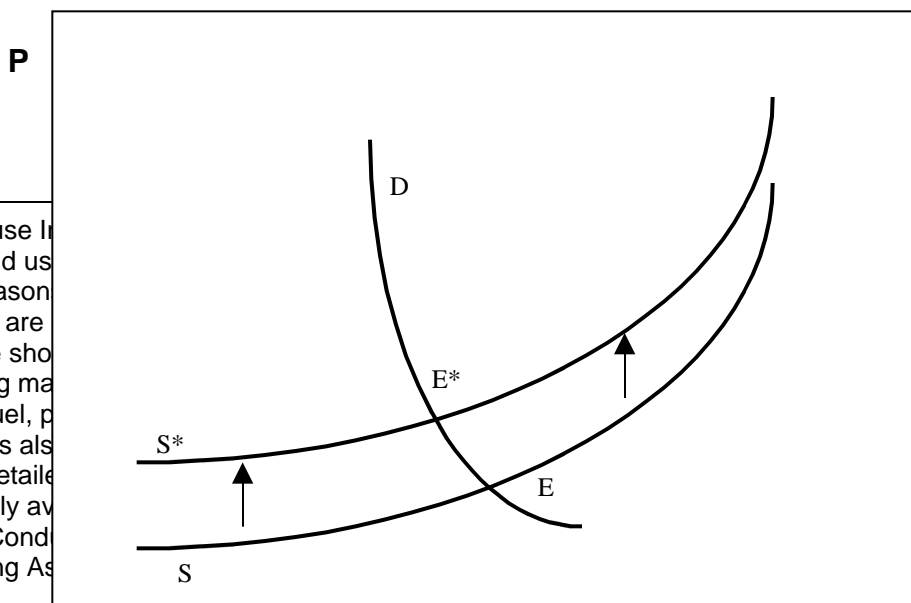
<sup>19</sup> In some ways, this analysis understates the scope of the potential problem. Restrictions on the use of external data will soon begin to affect the deliverability of catalogues by the United States Postal Service (USPS). The regulations implementing Section 5 of the Financial Services Modernization Act restrict the information that has been used in the past for improving addresses so that they are more deliverable. By some estimates, this could reduce deliverability by as much as 15%. That affect is not part of the calculations above.

<sup>20</sup> Faced with an increased factor price, a firm's only leverage is the threat of "exit." Their ability to do so is contingent upon both the presence of a substitute good, and the degree of substitutability. In the case of apparel catalog and Internet retail, substitutes for information-based direct marketing include print media, radio and television advertising – all of which are crude substitutes in that target marketing is more difficult and less cost-effective.

apparel firm could probably not stay in business. Given the likelihood that these additional burdens will be passed along to consumers, such costs will be referred to as an “information tax.”

Figures 1 and 2 show supply and demand graphs that describe these two possible scenarios that could develop as a result of an information tax. In both cases, the firm’s supply function (S) shifts upwards as a result of the increased cost of sending catalogs to interested customers.<sup>21</sup> In Figure 1, the demand curve (D) is relatively steep, or inelastic, reflecting consumers who do not change their purchase level much in response to higher prices. One way to think of this figure is that it shows the demand for consumers who buy from catalogs because of convenience rather than price.<sup>22</sup> As a result of the information tax, the upward shift of the supply curve causes the equilibrium point to move from E to E\*. This shift reflects a large increase in price and only a small reduction in quantity.

**Figure 1: Relatively Inelastic Demand**  
 Effect of Data Restrictions on Price and Consumer Demand for Apparel Purchased through Catalogs



<sup>21</sup> Because Internet sites, and using good reasons.  
<sup>22</sup> There are distance shopping malls, travel, fuel, and shoppers also frequently visit mortar retail stores. Study. Conducted by Marketing Associates.

their Web sites, there are a variety of reasons for the convenience of nearest alternatives associated with retail practices.

A very different situation is shown in Figure 2. In this figure, the demand curve is relatively shallow, or elastic, reflecting consumers who respond to a price increase with a large decrease in demand. This figure can be interpreted as describing the situation of consumers who buy from catalogs because of price rather than convenience. In this case, the upward shift of the supply curve causes demand to drop to 0.

**Figure 2: Relatively Elastic Demand**  
Effect of Data Restrictions on Price and Consumer Demand for Apparel Purchased through Catalogs

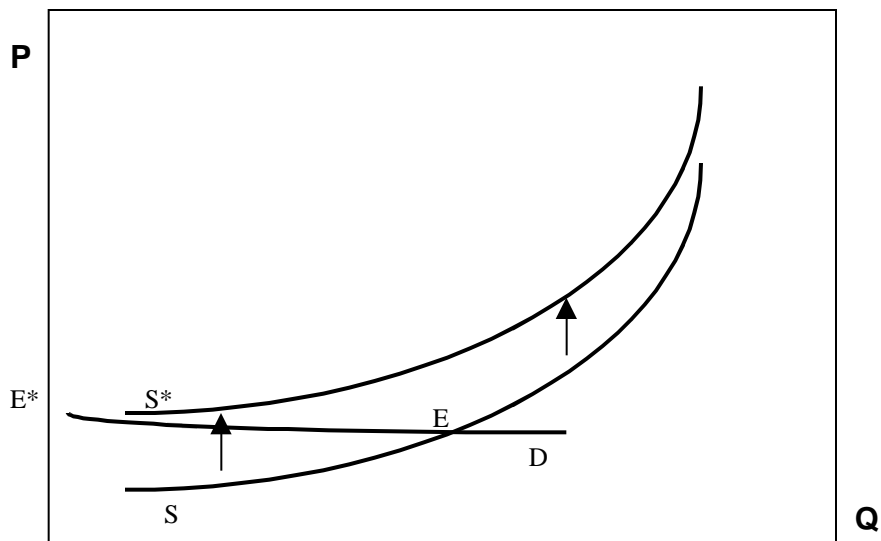


Figure 2 describes a scenario in which catalog companies could stay in business only by leaving the supply curve unchanged and absorbing the full cost of the information tax themselves. However, it is important to realize that such reduction in profit can be carried only so far. The DMA Annual Survey shows that for the median apparel catalog retailer the cost of goods sold represents 46 percent of net sales revenue, and that marketing, interactive, operating and G&A expenses represent 57 percent of net sales revenue. Thus the median apparel catalog retailer has a profit rate of about 7 percent. Since catalog mailings represent 22 percent of the median apparel catalog retailer's net sales, a one-third increase in the cost of catalog mailing without a corresponding price increase would be sufficient to completely eliminate all profit for the median catalog company.

In addition to being threatened by additional costs, data restrictions, such as an opt-in requirement for external information, favor larger firms with name recognition. In both the offline and online environments, larger firms with significant and favorable name recognition among consumers will obtain the highest levels of affirmative consent from consumers for the use of their information for additional uses (marketing, advertising, decisioning). Consumer research shows that individuals tend to trust firms they know more than unfamiliar firms, such as small or new firms.

On the whole, then, an opt-in style data restriction would likely produce a "double-whammy" for small businesses and potential new entrants. Such firms

would be confronted not only with additional marketing costs, but also would face the onerous task of gaining affirmative consent from distrustful consumers who, in all likelihood, have never heard of the small or new firm seeking their consent.

#### **4.A Impact of Data Restrictions on Classes of Consumers**

With respect to the impact of a price increase on consumer demand, while much will depend on the magnitude of the price hike, there are compelling reasons to conclude that rural and inner city shoppers have a demand curve that resembles that depicted in Figure 1, while most urban and suburban consumers confront a situation akin to that depicted in Figure 2.<sup>23</sup>

For example, evidence dictates that the profile rural catalog shopper values the convenience of distance shopping. For instance, on average, a catalog shopper lives 3 miles further from the nearest shopping mall or major retail store than does the profile non-catalog shopper. This would mean an additional 6 miles round trip to shop for apparel. Given that 70 percent of all catalog shoppers live in rural and suburban areas, it is safe to assume that a large number of catalog shoppers value the convenience for this reason.

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<sup>23</sup> The definition of “inner city” employed in this study is consistent with that advanced in the two studies cited herein. Both the Boston Consulting Group and Pricewaterhouse Coopers define inner city as “economically distressed urban communities with a median household income of at least 25% less than the city average, a poverty rate at least 50% higher than the city average, and/or unemployment at least 30% higher than the city average.” *The Business Case for Pursuing Retail Opportunities in the Inner City*. The Boston Consulting Group in partnership with The Initiative for a Competitive Inner City, June, 1998; *The Inner City Shopper: A Strategic Perspective*. A special report by PricewaterhouseCoopers and the Initiative for a Competitive Inner City, January, 1999.

Inner city catalog shoppers, by way of comparison, value the quality of merchandise, the relatively low prices, and the unique and fashionable merchandise offered by catalog retailers. In addition, inner city markets are typically under-served by traditional brick and mortar retailers, and are, therefore, more reliant on catalog retailers for apparel products.

As was discussed above, restrictions on external consumer information would likely impose an information tax on people who buy apparel through catalogs that would range from 3.5 to 11 percent. Given the existence of this information tax, it is also important to determine which groups of consumers would likely be most impacted. Based on available empirical evidence, there are analytic reasons to believe that inner city residents, particularly African Americans and Hispanics, would be forced to bear a disproportionate share of this information tax.

Inner city residents are less affluent than the average US citizen. While for the U.S. as a whole, 37 percent of the primary household shoppers earn less than \$35,000 per annum, these numbers are dramatically higher in the inner-city. Here, 58 percent of white primary shoppers, 69 percent of African American, and 67 percent of Hispanic primary household shoppers earn less than \$35,000 each year.<sup>24</sup>

Recent studies by The Boston Consulting Group and PricewaterhouseCoopers indicate that, in general, inner city residents also have less access to shopping centers and food stores than do their suburban

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<sup>24</sup> "The Inner-City Shopper: A Strategic Perspective," A Special Report by PricewaterhouseCoopers and The Initiative for a Competitive Inner-City. January, 1999. [http://www.icic.org/research/pubs\\_and\\_studies.html](http://www.icic.org/research/pubs_and_studies.html).

counterparts.<sup>25</sup> Further, shoppers in the inner city typically pay higher prices for goods and services and have fewer products to choose from. With fewer choices, inner city shoppers generally have to travel further, go to more stores, and take more time to get all their shopping done.

Consequently, it is not surprising that mail order does well with inner city shoppers.<sup>26</sup> For example, when asked to identify the store type bought from most often for women's apparel, 12 percent of African American, 11 percent of white, and 9 percent of Hispanic inner city respondents indicated a preference for mail order catalogs, as compared to only 7 percent for the total US population.<sup>27</sup>

Finally, inner city African American households report spending (in absolute dollars) more annually on apparel than the average U.S. household.<sup>28</sup> Inner city African American households spend, in absolute dollars, roughly 20 percent more annually on women's apparel than does the average U.S. household, nearly 75 percent more on men's apparel and more than twice as much on children's apparel.<sup>29</sup> Furthermore, PricewaterhouseCoopers reports that inner city shoppers are more interested in fashion and apparel shopping than U.S. shoppers as a whole. The “unique” and “trendy” fashions preferred by inner city shoppers are often only available from boutique catalog and Internet apparel retailers – precisely the type of firm that would likely suffer the most from data restrictions. Thus, data restrictions would not only raise costs for catalog and

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<sup>25</sup> ” *The Business Case for Pursuing Retail Opportunities in the Inner City*. The Boston Consulting Group in partnership with The Initiative for a Competitive Inner City, June, 1998; and PricewaterhouseCoopers, Op. Cit.

<sup>26</sup> *Ibid.*

<sup>27</sup> *Ibid.* Total US population sample includes: urban (non-inner city); suburban, rural and inner city. This indicates that inner city shoppers are far more reliant on distance shopping than suburban and urban non-inner city households.

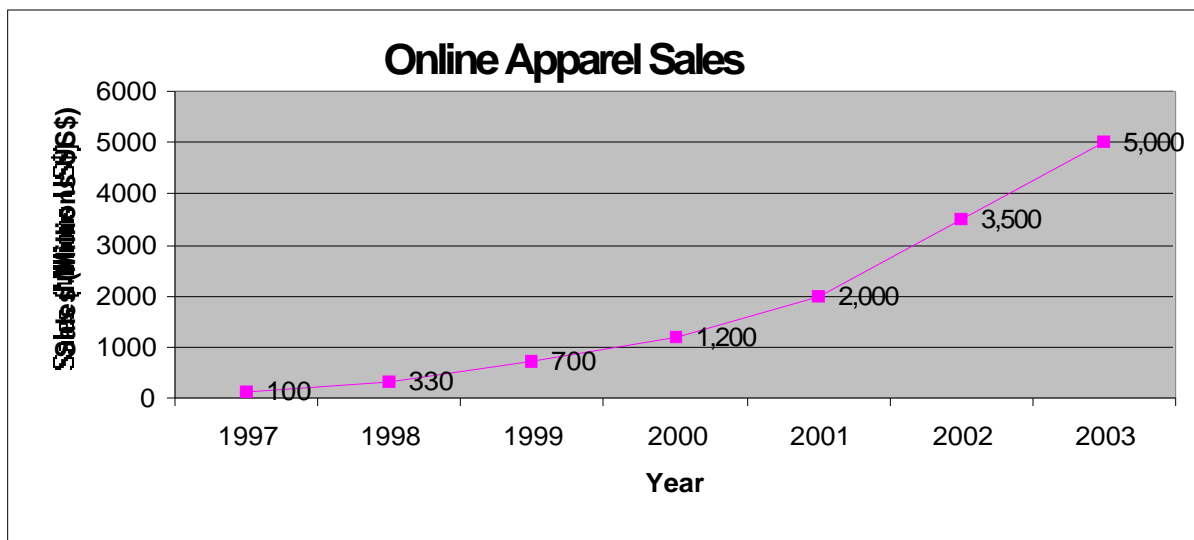
<sup>28</sup> *Ibid.*

<sup>29</sup> *Ibid.*

apparel Internet retailers, they would severely hamper the ability of small and medium-sized niche fashion retailers to reach an important market. As a result of higher costs and diminished competition, the information tax would fall disproportionately on inner city shoppers.

## 5. The Impact of Privacy Restrictions on the Cost of Internet Apparel Sales

**Figure 3: Growth in US Internet Apparel Market (1997 – 2003)**

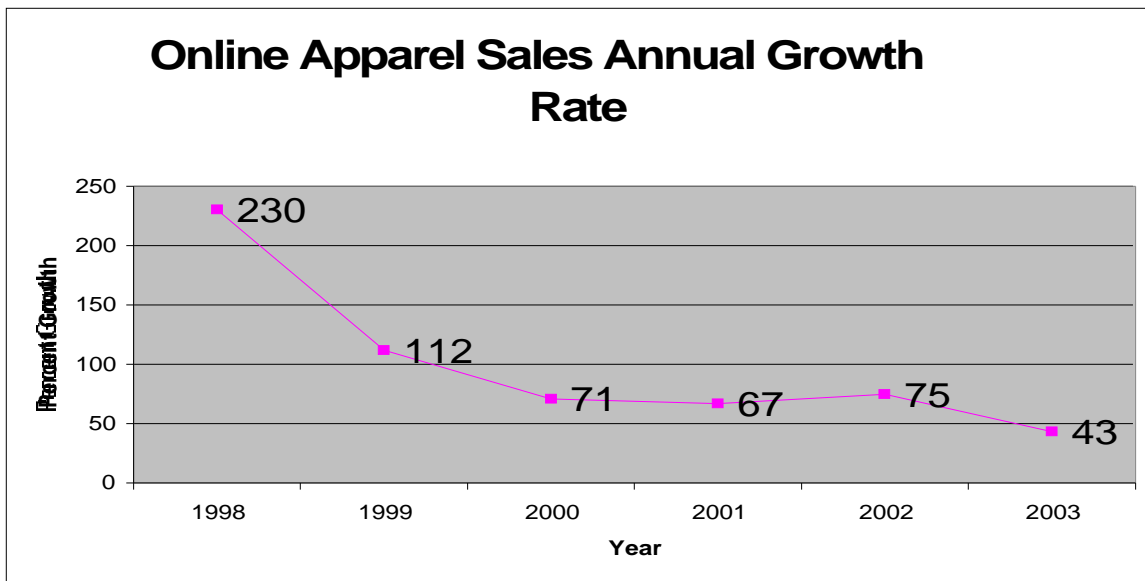


Source: Xceed Intelligence

It is clear the Internet is going to play an increasing role in apparel sales in the coming years. Currently, 13 of the 16 apparel direct marketing retailers in the DMA survey have Web sites and the median firm makes only 4 percent of its net sales online. However, these firms project substantial growth in Internet sales over the next few years, with a median forecast that the Internet's portion of their total sales will increase to 27.5 percent by 2004. In fact, as the chart above reflects, some industry experts project that online apparel sales will reach \$5 billion by 2003, a 16-fold increase over their 1998 levels. (See Figure 3).

Clearly, then, online apparel sales are growing at an astronomical rate. As Figure 4 graphically depicts, online apparel sales enjoyed triple digit growth during the late 1990s, despite the well-documented problems with fulfillment, and continue to enjoy robust growth even in the aftermath of the dot-com washout of 2000. A recent study by Xceed Intelligence estimates that online apparel retail sales will enjoy a healthy rate of growth over the medium-term, as pure-play, catalog and brick-and-mortar apparel retailers begin to realize the full potential of this marketing medium. In fact, online apparel sales will grow at a compound annual rate of 75 percent through 2003, reaching approximately \$5 billion in total sales.

**Figure 4: US Internet Apparel Sales Growth Rate**



Source: Xceed Intelligence

The growth of Internet sales holds the potential to substantially increase the proportion of apparel that consumers buy through direct marketing. The DMA survey found that 20 percent of online customers had never purchased

from the company before. This suggests that a Web site can provide a powerful method for attracting new customers. Furthermore, a PricewaterhouseCoopers study found that people who purchase apparel over the Internet not only buy 12 percent of their clothing online but also buy 11 percent of their clothing through catalogs.<sup>30</sup> In contrast, only 5.6 percent of apparel purchases in general are made through catalogs and the Internet.<sup>31</sup> This strong correlation indicates that the opportunity to purchase apparel online leads people to increase their overall level of purchases through direct marketing, rather than leading them to substitute Internet purchases for catalog purchases, as is commonly believed to be the case.

The online apparel Web sites that are doing well appear to be those that are linked to established brands from traditional retailing. A study by PricewaterhouseCoopers found that fewer than 12 percent of online shoppers used pure-play Internet sites. In contrast, 80 percent of online shoppers used the Internet sites of an established store or catalog retailer, and one-third shopped at Internet sites operated by an apparel manufacturer.<sup>32</sup> This finding echoes the results of a National Retail Federation survey last year that identified the top 100 Internet retailers based on the level of consumer sales. That survey found 10 apparel retailers within the top 100 Internet retailers and all 10 of those Internet apparel retailers sold primarily through stores, catalogs, or as a manufacturer.<sup>33</sup>

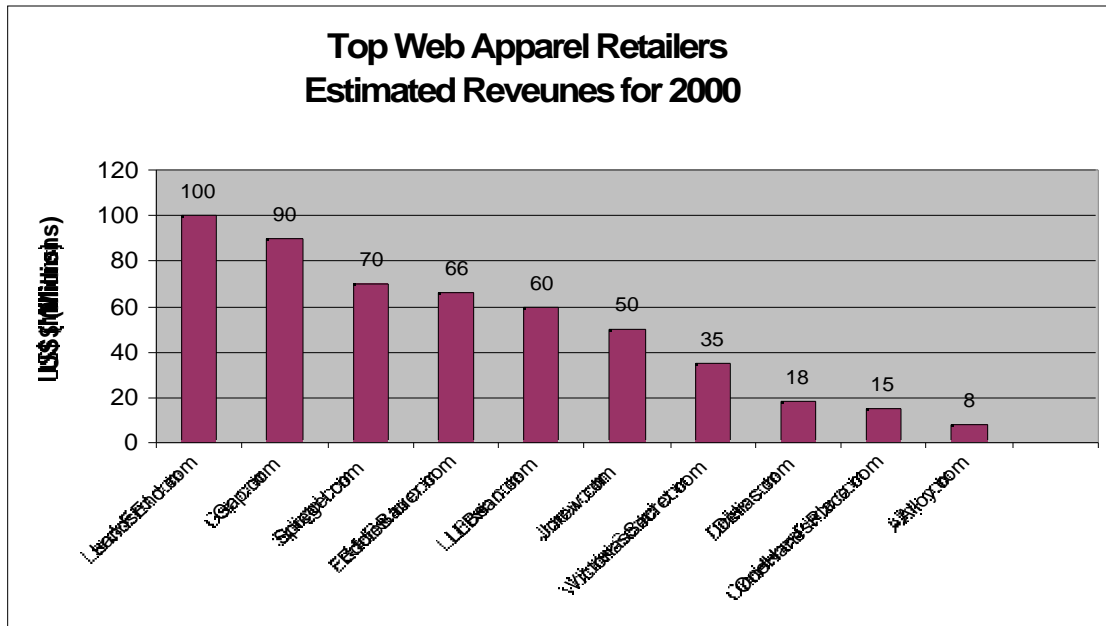
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<sup>30</sup> PricewaterhouseCoopers LLP, "While Internet Users are Multi-Channel Shoppers, Brick-and-Mortar Rules PricewaterhouseCoopers' Survey Reports," September 28, 2000.

<sup>31</sup> U.S. Census Bureau, *Merchandise Line Sales, 1997 Economic Census*, issued July 2000, Table 2.

<sup>32</sup> PricewaterhouseCoopers LLP, "Shopping for Apparel Online Gains Popularity – Familiarity and Brand Trust Drive Purchases PricewaterhouseCoopers' Survey Report," July 10, 2000.

**Figure 5: Largest US Online Apparel Retailers (2000)**



Source: Stores Magazine.

Thus, despite the robust growth rates and the expansion of the magnitude of online apparel retail sales, in the near-term, it is unlikely that pure-play apparel retailers, such as Bluefly.com and Boo.com, will be enjoying the fruits of the online apparel retail boom. As the bar chart below shows, currently, most of the top online apparel retailers (measured by revenues) are traditional catalog apparel retailers like Lands End, Spiegels and J.Crew. Cataloger apparel retailers, only recently beginning to explore the Internet as a marketing medium, are expected to benefit from an influx of skilled IT personnel from failed pure-play companies. As these firms become more Internet-savvy, they will better be able to capitalize on their extant fulfillment capacity, name recognition and decades of direct marketing experience to grow their revenues using the Web as a tool.

<sup>33</sup> NUA Internet Surveys, "National Retail Federation: Report Identifies the Web's Top 100

The apparel direct marketing retailers in the DMA study use a variety of techniques to attract customers to their online sites. The five primary methods, each used by more than half of the online apparel retailers, are 1) listing the Web site in the catalog, 2) sending email to current customers and past Web site visitors, 3) search engine positioning, 4) listing the Web site on package inserts, and 5) placing banner ads.<sup>34</sup> These five methods of Web site promotion do not suggest that online sales are likely to encounter privacy restrictions that are more costly than those that affect catalog mailing. Only the sending of email to customers and Web site visitors uses a new type of consumer information, and in all cases the apparel retailers have received permission from consumers for their email addresses to be used. None of the apparel retailers in the DMA study uses unsolicited email to promote their online sites.<sup>35</sup>

The current average cost of promoting online sales appears to be slightly less than the average cost of promoting catalog sales. In the DMA survey, the median apparel retailer received 4 percent of net sales online while spending less than 3 percent of its total marketing and interactive expenses on its Web site. It is important to note, however, that some online sales come from promoting the catalog and some catalog sales come from promoting the Web site, so it is hard to make a clear division between the two types of promotion.

Over time, it is possible that the cost structure of the Internet will allow apparel direct marketing retailers to save a substantial portion of their marketing

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Retailers," October 5, 1999.

<sup>34</sup> When asked to identify the most valuable and most effective offline means of driving traffic to their Web sites, apparel retailers ranked catalogs and direct mail as the top two marketing tools. See, *The DMA State of Catalog/Interactive 2000*. New York, The Direct Marketing Association.

expenses. As noted above, the median apparel direct marketing retailer in the DMA survey devotes 22 percent of its net sales to the production, printing, and mailing of catalogs. Much of this catalog cost can be eliminated for customers who prefer to receive their information entirely online. However, it will still be necessary to spend money to promote the company's brand and its Web site, and it is important to note that currently the single most important method for promoting apparel Web sites is by sending catalogs. It is not clear how much brand and Web site promotion will cost once the business model for online apparel sales becomes more stable and it is not clear how far that promotion will ultimately be separated from catalog mailing.

Data flow restrictions could affect some types of promotion online, but those types of promotion are not likely to be the dominant ones. In the online world, consumers can indicate in a few mouse-clicks what type of products they are interested in buying. If apparel Web sites are primarily promoted online, then the interactive nature of the web would substantially reduce the benefit of the type of consumer information that direct marketers have traditionally used to decide which consumers are more likely to be interested in their products.

For example, a traditional direct marketer may need to predict which consumers are interested in buying men's luxury coats in order to send catalogs to those people that contain such coats. The direct marketer needs to predict the consumer's interest because the catalog must be mailed before the consumer begins shopping for the coat. In contrast, if consumers respond to online promotions, then an online apparel retailer could wait until the consumer is

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<sup>35</sup> There is a distinct possibility that the growing sophistication of email marketing may lead to a change in this fact. The imposition of an internet tax would create an incentive to use unsolicited

searching for men's luxury coats on the web and simply provide the information when the consumer requests it. In this scenario, the online apparel retailer needs to make it easy to find men's luxury coats on the Internet but does not need to predict which consumers are the ones who will ultimately be interested in buying those coats.

However, it is too early to predict with confidence what the ultimate cost structure of online apparel retailing will be. If online promotion of apparel Web sites is successful, then privacy restrictions might not increase the cost of buying apparel online to the same extent that they would for buying apparel from catalogs. In contrast to the catalog world, there is less of a need in the online world to predict in advance which consumers will want to buy which products. While online advertising does make use of external information to place banner ads, many consumers browse the Web searching for information on specific products. In such cases, consumers will find suppliers rather than the other way around. To the extent that the promotion of apparel Web sites continues to depend on mailing catalogs, and given the reliance of online advertising on external information, data restrictions would increase the cost of online apparel purchases in the same way that they would increase the cost of catalog apparel purchases.

## **6. Conclusion**

This report has analyzed the impact of data flow restrictions that prevent companies from using consumer information to identify groups of people who are

likely to be interested in their products. The analysis has focused primarily on the use of external consumer information, which is information obtained from other companies rather than from direct interactions with consumers. This is the type of consumer information most likely to be restricted by privacy regulations. This report has also shown that these restrictions are not mere hyperbole. Two of the most predictive variables for the retailers examined in this study are age and vehicle owned. The best for this information is motor vehicle records that now have an “opt-in” restriction mandated by the Drivers Privacy Protection Act.

The analysis shows that data restrictions would impose an information tax on people who buy through catalog retailers ranging from 3.5 to 11 percent. Our estimate is that this will add at least \$1 billion of costs in this \$15 billion industry. It is not yet clear how much data restrictions would increase the cost of apparel sales over the Internet, but there are reasons to believe that costs would increase by an amount somewhat less than would catalog apparel sales. If companies find an alternative to catalogs as a way to successfully promote Internet apparel sites online, then it is possible that data restrictions would have less of an impact on the cost of buying apparel online than through catalogs. In this case, the interactive nature of the Internet would allow consumers to identify directly the type of products they are looking for and would make it less necessary for companies to use external information to identify interested consumers in advance.

If, however, the promotion of apparel Web sites continues to depend on mailing apparel catalogs, then data restrictions would increase online apparel costs in much the same way that they would increase catalog apparel costs. In

addition, the current reliance on external information for placing banner ads means that online apparel sales will always be affected by restrictive data rules that would reduce the quantity and quality of available information.

In the end, the burden of an information tax would most likely be borne by the consumers who buy apparel through catalogs and over the Internet. In some cases, the necessary price increases might be so high that many consumers would be forced by the information tax to give up the convenience and selection of catalog and Internet shopping.

## Appendix A: Derivation of the Statistical Analyses Provided by AM

The sales data presented in Tables 1-3 are derived from statistical analyses performed by AM on the data in the company's house list. AM used multiple regression analysis to analyze the current purchasing behavior of its customers based on data about their purchasing behavior in the past. Since AM's house list contains information on more than 25 million customers, the database is easily large enough for multiple regression to identify with high accuracy the pieces of information about past purchasing behavior that are the best predictors of current purchasing behavior. The predictive model employed by AM uses a robust sample of between 200,000 and 300,000 for estimating the trends used in this report. The model has been in use by AM for more than a decade. A team of professional database marketers and statisticians developed and have continually improved this model.

Catalogers segment names in their house file and names acquired from outside lists by a number of different criteria. Traditionally, for consumer catalogers (including AM), the three most significant criteria are: "Recency" – the date of the last purchase using distance shopping; "Frequency" – how often an individual made purchases by means of distance shopping; and "Money" – the cash value of all purchases made, individually and collectively, using distance shopping. Taken together, these three criteria are known in direct marketing parlance as "RFM." Other criteria for segmentation include type of merchandise purchased and past history of merchandise purchased.

Once AM identified the best predictors of its customers' purchasing behavior, the company applied the same regression model to the most recent customer information in order to predict its customers' future purchases. After calculating a predicted level of future purchases for each name on the house list, AM segmented the list by placing the names in order from the highest level of predicted purchases to the lowest level of predicted purchases. The list was then divided into deciles, ranging from the decile of customers with the highest predicted purchase level to the decile of customers with the lowest predicted purchase level. The predicted purchase levels by customer were then summed within each decile and converted into percentages to construct the tables that are contained in the text of this report.

The sales proportions by decile developed by AM are fairly typical for the marketing industry as a whole. In *The New Direct Marketing*, a current marketing text, there are examples of customer response by decile developed for other companies using regression with internal information and with external information. These textbook examples are shown in the table below (Table A).

The examples based on internal information are very similar to the sales proportions by decile for AM in Table 3 that use internal information, whereas the

examples based on external information are very similar to the sales proportions by decile for AM in Table 4 that use external information. In both cases, AM's analysis achieves a slightly better segmentation, but overall the results are quite close to the textbook examples.

The traditional methods of segmentation (RFM) have worked well in the past and still have value today, but with the slowing growth of response rates, increased competition (in the mailbox and online) and increasing costs to put a catalog in the mail (eg. postal rate hikes), the traditional methods alone are no longer sufficient. Catalogers are unique in that most have a record of all promotional and transactional data on every person they approach. This data makes the potential for success when using predictive modeling much greater for catalogers than for any other shopping medium.

**Table A: Typical Regression Modeling Results for Percent of Total Possible House File Sales by Decile from *The New Direct Marketing* (page 494).**

Decile	Internal Information				External Information		
	Example 1	Example 2	Example 3	Example 4	Example 5	Example 6	Example 7
1	32.6%	29.8%	22.9%	24.1%	16.2%	13.7%	11.3%
2	14.0%	16.7%	16.1%	14.2%	13.8%	12.5%	10.9%
3	10.5%	11.9%	13.4%	10.8%	12.5%	11.3%	10.6%
4	9.3%	8.9%	11.8%	10.0%	11.0%	11.0%	10.6%
5	8.7%	8.3%	9.6%	9.2%	10.8%	9.8%	10.2%
6	7.0%	6.9%	8.1%	7.8%	9.2%	9.2%	10.2%
7	5.8%	5.1%	6.2%	7.0%	8.5%	9.0%	9.6%
8	5.2%	4.8%	4.9%	6.6%	7.7%	8.6%	9.2%
9	4.7%	4.2%	4.0%	5.3%	6.2%	8.2%	8.7%
10	2.3%	3.6%	3.0%	4.9%	4.6%	7.2%	8.7%

## Appendix B: The ISEC Survey of Apparel Catalog Retailers

During the summer of 2000, ISEC conducted a survey of apparel catalog retailers to learn about their use of internal and external consumer information. The survey recipients were selected from the DMA member database to include all companies coded as apparel catalog retailers. In total, 43 companies received the survey. Companies that did not respond to the initial survey mailing received a second hardcopy of the survey, along with several follow-up e-mail messages and phone calls. The survey produced 10 complete responses.

Firms were coded by annual revenues into the following categories:

- Small: Annual revenues less than \$100 million.
- Medium: Annual revenues between \$101 and \$750 million.
- Large: Annual revenues greater than \$751 million.

The survey asked for basic business results from fiscal year 1999, as well as information related to the use of internal and external consumer information in marketing. The 10 survey respondents included small, medium and large apparel catalog retailers. During 1999, five respondents recorded revenues less than \$100 million, 2 firms achieved revenues between \$101 and \$750 million, and one firm earned more than \$751 million in revenues. While the respondents were overly represented by larger firm the patterns are typical of industry trends. Two respondents did not provide this data.<sup>36</sup>

Of those firms that responded, the total revenues during 1999 was \$2.4 billion, or approximately 20 percent of the \$13 billion US catalog apparel market. Given the distribution of participating catalogers by firm size, as well as the significant share of the total industry revenues accounted for by the participating catalogers, the results from the ISEC survey are representative of directions one would expect from the broader catalog apparel industry.

The purpose of coding respondents by firm size, is to identify the impacts of privacy restrictions on firms of similar size, as well as highlight the potential different impacts among firms of disparate sizes. In this manner, the probable impact of different cost structures and other variables unique to firms of different sizes should become more apparent.

This model assumes all other price determinants (factor inputs such as labor, brand elasticity, and substitute goods for catalog marketing such as radio, television and print media advertising) are held constant.

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<sup>36</sup> Many catalog apparel retail companies, and catalog companies in general, are privately owned and are traditionally reluctant to divulge financial and operational data of any nature, no matter how seemingly benign. As such, the 20 percent response rate for the ISEC survey is all the more remarkable.

Given the self-reporting nature of the survey, the accuracy of the data cannot be guaranteed by The DMA, ISEC or the PLI. The group of respondents should be considered a somewhat more pro-active sample, which may marginally skew the results.

## **Appendix C: The DMA State of the Catalog/Interactive Industry 2000 Report**

The DMA conducts an extensive annual survey of the direct marketing industry. For the 2000 survey, which was used in this report, the survey was sent to almost 1,700 direct retailers. This sample included 600 voting members of the DMA, 300 non-members from DMA's file, and nearly 800 catalogs selected from the Oxbridge Directory of catalogs with annual sales greater than \$1 million. The survey was mailed to each recipient a total of three times over a two-month period. Companies that did not respond received a follow-up phone call. The survey produced 107 complete responses. Of these responses, 16 placed their flagship catalog in the category of men and women's apparel.

The 16 apparel respondents to The DMA annual survey for 2000 included small, medium and large apparel catalog retailers. The DMA annual survey asks for extensive information about all aspects of catalog and interactive operations and strategy. Responses to these questions were analyzed separately for the 16 apparel respondents to produce the figures used in this report.

While the research methodology employed in The DMA's industry survey was markedly different, inasmuch as The DMA survey is an established, ongoing quantitative survey that targets catalogers at large (whereas the ISEC survey was a one-off survey that targeted only members of The DMA that were first identified as apparel catalogers), the results from The DMA survey were consistent with those of the ISEC survey. This is strong corroborating evidence, that suggests that the directional inferences drawn from the ISEC survey are generalizable beyond the sample of respondents.

## Appendix D: “External” and “Internal” Information

For the purposes of this study, “**external information**” is defined as any data about groups of customers or potential customers purchased from third party sources, such as information service providers or list brokers. A fundamental type of external data retailers purchase from third party information service providers is address-standardization, or address-improvement, information. This process, which boosts deliverability of mail and qualifies for Postal Rate discounts, entails matching name and address information contained in the housefile with information contained in the third party provider’s databases. Where discrepancies are found, the housefile is “washed” to reflect more accurate address information. A similar process can be performed for name information. .

In addition, information service providers may also provide retailers with demographic or lifestyle data. This is typically an overlay of the retailer’s housefile. Usually, the retailer will only provide an information aggregator the top decile for purposes of hygiene and analysis. The typical input data provided by the retailer is name and address. More specific information, such as what was purchased, when the purchase was made, and the amount of purchase are considered proprietary information and is closely guarded by the retailer as a result. Once all possible matches are identified, the information service provider will run analytic software to determine trends among the retailers customer base. In this fashion, common traits exhibited by the top customers are identified. Typically, trend information will include: age range for customers; estimated income brackets; whether or not they are car owners and what types of cars are typically owned; whether or not the customer group are home owners or renters; and whether or not they are wired to the Internet and there is presence of a personal computer in the household.

It is important to note that information requests are processed in a batch environment, ranging from a few thousand to several million records, by computers, with almost no human intervention and no human analysis of single records. Marketing data appends and analytic services are not performed as single-record lookup services. In no instance is it ever the case that a retailer will ask for name and address hygiene or analytic services on an individual or a (Michael...may want to qualify what a small group is) small group. In addition to single-record processing being extremely costly, this information delivery mode adds no value for the retailer’s business services. Further, the batches of data that are washed and analyzed are done so by computers. Data is normally transmitted, in batch, electronically – from server to server, and is washed and analyzed by computers. There is no human involvement in this process, or, in the parlance of the field, “eyeballs” never see the data.

“**Internal information,**” by contrast, is defined as all information provided by a customer to a retailer during the course of a business transaction and any information that occurs as a result of the business relationship. This usually

involves: name, mailing address (home or work); occasionally a telephone or fax number; occasionally an e-mail address; a credit card number; purchase item; date of purchase; and amount of purchase.

### Catalog Retailer Use of Third Party Data

Type of data	Source	How it is used	Lift
Demographic data such as age, modeled income, vehicle ownership and home ownership	Information aggregators that collect the information from public records, warrantee cards and consumer surveys	House files are augmented with the demographic information, and analyzed to look for predictive variables. Those variables are then used to segment the house files and to look for prospects that share the same variables.	The cataloger mails the book to those most likely to buy, and prospects most likely to respond.
Third party lists	Other catalogers, magazine publishers and information aggregators	Catalogers mail catalogs to lists that match the demographics of their current buyers.	Prospects that match the demographics of current buyers are more likely to respond reducing cost for the cataloger and reducing unwanted mail.
Suppression files such as the DMA Mail Preference file and deceased suppression files that come from matching compiled files to the Social Security Administration deceased Social Security Number file.	The DMA who supplies the preference files and aggregators who supply deceased files.	Used to assure consumers who don't want marketing mail do not receive it, and assure the families of deceased individuals don't receive marketing solicitations in the name of their deceased loved ones.	Mailings only go to those individuals who want to receive such mailings.
List hygiene information that comes from directories built from various sources including the identifying information from credit reporting agencies	Computer service bureaus	Files are processed to merge duplicate files, and update addresses so that mail and packages are more deliverable.	Reduces mailing costs by: a) eliminating duplicate mailings; b) facilitating postal discounts; c) reducing the mail that is not deliverable by standardizing addresses; d) updating addresses for consumers who have moved.

## Appendix E: Taxonomy of Data Restrictions

<b>Ideal Type Data Restriction</b>	<b>Real World Analog</b>	<b>Requirements</b>	<b>Impact on Catalog Retailer's Total Cost</b>	<b>Estimated Impact on Per Unit Average Price</b>
External Information	"opt-in" for sharing of information with third party.	information about a consumer may be shared with a third party only if a merchant receives consumer's affirmative consent after having been provided adequate notice.	Estimated increase of 3.5 % of total annual net sales revenue.	Estimated increase of 7.25 % per unit of apparel sold via catalog.
Partial Internal Information	"opt-in" for affiliate sharing (such as required by 1999 Financial Services Modernization Act; the Telephone Consumer Protection Act; and the pending Hollings bill).	information about a consumer may be shared with an affiliate only if a merchant receives consumer's affirmative consent after having been provided adequate notice.	Estimated increase of between 3.5 % and 11 % of total annual net sales revenue.	Estimated increase of more than 7.25% per unit of apparel sold via catalog.
Full Internal Information	"opt-in" for use of housefile data. (Maryland HB 14;)	a merchant may not collect or maintain personal information unless, after providing adequate notice, the individual affirmatively consents to the collection or maintenance of the records.	Estimated increase of 11 % of total annual net sales revenue.	Estimated increase of more than 11% per unit of apparel sold via catalog.
External and Internal Information	"opt-in" for use of housefile data and for sharing of data with third party.	a merchant may not collect, maintain or share personal information unless, after providing adequate notice, the individual affirmatively consents to the collection, maintenance and sharing of the records.	Estimated increase of 33 % of total annual net sales revenue.	Estimated increase of more than 33% per unit of apparel sold via catalog.

## Appendix F: Derivation of Cost Figures and Estimated Impact on Unit Price

### Assumptions:

- **Merchants seek to maintain current level of revenues and profit margin.**
- **The industry is competitive, therefore merchants are price-takers:** under conditions of competition, the ability of an individual retailer to pass additional costs upstream to suppliers is limited. In most cases, increased costs must be passed downstream to consumers. Given the tight margins characteristic of a competitive market, a single firm cannot long absorb additional costs by maintaining an artificially lower price in an effort to capture market share or drive competitors from the market.
- **Empirical evidence to date suggests that opt-in creates an effective “prohibition” on data sharing:** While there exists no quantitative evidence to support that 15% of consumers will elect to opt-in, there is strong evidence that suggests this rate may be inflated. For example, the affirmative consent trials completed to date (US West, eBay, Capitol One) have yielded considerably lower rates of affirmative consent, across different media, even when considerable resources are expended. Evidence from these trials suggests that the affirmative consent rate is likely to vary according by firm (name recognition); nature of information (how sensitive); and media through which consumer choice mechanism is offered (inbound v. outbound telephone call; direct mail; online). Given the current cost structures that obtain in the catalog and Internet apparel retail segments, the combination of relatively low rates of affirmative consent and the high costs associated with gaining an individual’s consent will result in an effective prohibition on the sharing of consumer data with third party and affiliate users.

### Derivation of Impact on Costs:

- For the median respondent to the ISEC and DMA surveys, total costs associated with catalog production and distribution (printing, shipping/postal, advertising, lists, data management, etc.) average 22 percent of annual net sales revenue.
- “Internal” information accounts for 80 percent of the explanatory power of Apparel by Mail’s predictive model, while “external” information accounts for the residual 20 percent.
- The average response rate for catalogs mailed to previous customers is approximately 4.5 percent, while the average response rate for catalog mailings to prospective customers is slightly more than 2 percent.
- The average respondent to the ISEC and DMA surveys generates approximately 66.6 percent of annual net sales revenues from mailings to previous customers and roughly 33.3 percent from mailings to prospective customers. Given the different response rates, the average apparel catalog retailer mails roughly 50 percent of its catalogs to previous customers and 50 percent to prospective customers.
- Restricting the use of external data would diminish the accuracy of a catalog apparel retailer’s predictive modeling, and therefore the accuracy of its mailings,

by approximately 20 percent, based on the estimated explanatory power of external information.

➤ To maintain pre-restriction sales and profit levels, the average apparel retailer would have to increase mailings to previous customers by 27 percent and to prospective customers by 70 percent. Assuming mailings are equally split, total mailings would have to increase by 49 percent to maintain current sales revenues.

➤ Apparel by Mail sends catalogs to 60 percent of the households on its total catalog list (housefile and lists acquired from third parties). If data restrictions make it necessary to increase mailings by 49 percent, Apparel by Mail will have to send catalogs to 89.4 percent of its total catalog list. This will increase mailing costs from 84.4 percent of mailing to the total catalog list, to 97.6 percent of that cost.

➤ Since the median apparel retailer spends 22 percent of its net sales revenues on catalog production and distribution, these additional costs amount to an increase of approximately **3.5 percent** of the catalog apparel retailer's net sales revenues. (This assumes declining marginal cost for each additional catalog produced and volume discounts for distribution. The scale of the discounts by volume is captured in Table 5).

➤ It is possible that some companies do not achieve any volume savings on catalog production and mailing costs. Given the structure of volume discounts for printing and shipping, this would be the likely scenario for very large and very small catalog apparel retailers. In this case, data restrictions would make it necessary to increase the 22 percent of net sales revenue spent on catalogs by a full 49 percent. This would increase total costs by **11 percent** of net sales revenue.

➤ Dun and Bradstreet data shows that while 90 percent of American firms are small businesses, a vast majority of US GDP is accounted for by large corporations. The apparel catalog and Internet retail segments are no different. Only 3 catalog firms (Land's End, L.L. Bean and J. Crew) earn more than \$1 billion per annum in sales revenues while a majority (60 percent) earn less than \$20 million per annum in sales revenues. Given the impact of shipping and printing volume discounts on increased catalog mailings, and therefore overall costs, we conservatively estimate that data restrictions on the use of external information will result in a **7.25 percent** increase in overall costs for catalog apparel retailers. This figure represents the median of the expected cost increase range.

### **Derivation of Impact on Unit Price:**

➤ This study assumes that firms in a competitive industry, limited in their ability to either absorb increased costs for strategic reasons, or to pass them upstream to suppliers, will increase the unit price of their apparel product by an amount equal

to the cost increase associated with a particular type of data restriction. Thus, a data restriction on the use of “external information” will result in a price increase of approximately 7.25 percent on each unit of apparel sold via a catalog.

### **Reasons Why the Estimated Price Increase Is Conservative:**

- **Apparel by Mail (AM) does not use cooperative data:** Although they make extensive use of a variety of third party data, Apparel by Mail, the firm used as the proxy of catalog apparel retailers, does not purchase lists of customers who purchase similar apparel items from other catalog retailers (known as cooperative data). As such, AM is less reliant on “external information” than are many other catalog apparel retailers. These retailers, then, are likely to be more affected by opt-in style data restrictions on the use of external information.
- **Competition effect:** If, as this study anticipates, small businesses are forced to “exit” and new firms are deterred from “entry,” then a dampening of competition will occur. It is conceivable, then, that a few larger firms, no longer constrained to the same degree by competitive forces, could increase unit costs by an amount that exceeds the increased costs resulting from restrictions on external data.
- **Changes in demand:** Consumers typically respond to an increase in price by curtailing consumption. The extent to which consumption will be curbed is contingent upon both the price-elasticity and income-elasticity of demand for those who purchase apparel via distance shopping media. In general, if there is an across the board drop in demand as consumers either purchase apparel from brick-and-mortar retailers or extend the life of their current wardrobe, then catalog and Internet apparel retailers may be forced to implement additional price hikes to sustain their pre-restriction revenue stream and profit margins.

Of course, the ability of consumers to respond in this fashion is contingent upon, among other things, the existence of alternative suppliers as well as the durability of apparel in their wardrobe. In some cases, such as in rural regions and inner city markets, there are few available alternative suppliers, and those that are available usually provide lower quality goods and charge higher prices. Consumers living in these under-served markets who buy their apparel from catalogs are likely to be less sensitive to changes in price, even if their income-elasticity is relatively high.

- **Costs are Understated:** The study only estimates the increase in catalog production and distribution costs. Other costs, including implementation and opportunity costs, are not factored into the estimated 7.25 percent cost increase.

The enactment of an opt-in type data restriction would impose a variety of **implementation costs** upon a retailer. For instance, to ensure compliance it may be necessary for a retailer to; upgrade their computer and communications system; train their IT staff; hire compliance officers including a chief privacy officer. In addition, a transition of this magnitude is rarely accomplished without

experiencing some bumps in the road, whether they are related to an infrastructure upgrade or potential litigation stemming from compliance issues, there are certain to be unanticipated implementation costs.

**Opportunity costs**, in the case examined here, are primarily revenues foregone from either not selling customer data, or selling a substantially reduced amount. Some catalogers have millions of customer names and addresses in their housefiles, and are able to generate a sizeable revenue stream from reselling or “renting” customer lists. Here again, such lists are only purchased in batches of thousands or millions, and are not economically useful on a small or individual scale.

**Negative Externalities:** In some ways, this analysis understates the scope of the potential problem. Restrictions on the use of external data will soon begin to affect the deliverability of catalogues by the United States Postal Service (USPS). The regulations implementing Section 5 of the Financial Services Modernization Act restrict the information that has been used in the past for improving addresses so that they are more deliverable. By some estimates, this could reduce deliverability by as much as 15%. That highly plausible negative externality is not part of the calculations above.

#### **Reasons Why Estimated Price Increase May be Too High:**

- Consumers, feeling relatively more comfortable with the information sharing practices of catalog and Internet apparel retailers, increase their demand for apparel sold via catalogs and the Internet. The increase in demand, then, offsets the cost increases associated with the restriction on external information as suppliers respond to the surge in demand by increasing output. In this scenario, a new equilibrium would be established where price equals marginal cost at a level below the pre-restriction price level.
- Retailers may employ alternative marketing and advertising techniques. For example, catalog retailers may begin employing cruder methods of reaching prospective customers such as broadcast and cable television advertising, print media advertising, or advertising on billboards in areas with heavy traffic. In addition, some alternative sources of external information will be available to help target prospective customers.

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