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Mary J. Culnan, Pamela K. Armstrong,

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Information Privacy Concerns, Procedural Fairness, and Impersonal Trust: An Empirical Investigation

Mary J. Culnan • Pamela K. Armstrong
School of Business, Georgetown University, Washington, D.C. 20057-1008
pamela.armstrong@erols.com

Abstract

This research addresses the tensions that arise between the collection and use of personal information that people provide in the course of most consumer transactions, and privacy. In today's electronic world, the competitive strategies of successful firms increasingly depend on vast amounts of customer data. Ironically, the same information practices that provide value to organizations also raise privacy concerns for individuals. This study hypothesized that organizations can address these privacy concerns and gain business advantage through customer retention by observing procedural fairness: customers will be willing to disclose personal information and have that information subsequently used to create consumer profiles for business use when there are fair procedures in place to protect individual privacy. Because customer relationships are characterized by social distance, customers must depend on strangers to act on their behalf. Procedural fairness serves as an intermediary to build trust when interchangeable organizational agents exercise considerable delegated power on behalf of customers who cannot specify or constrain their behavior. Our hypothesis was supported as we found that when customers are explicitly told that fair information practices are employed, privacy concerns do *not* distinguish consumers who are willing to be profiled from those who are unwilling to have their personal information used in this way.

(*Information Privacy*; *Procedural Justice*; *Trust*; *Service Quality*; *Organizational Information Processing*)

Introduction

Two converging trends, one competitive and the other technological, are driving American business. First, to survive in the increasingly competitive global economy, companies depend on vast quantities of information to build strong bonds with current customers, and to attract new customers. Second, information technology (IT) continues to increase in capability and to decline in cost, allowing information to be used in ways that were previously impossible or economically impractical. Technology enables companies to record the details of any customer transaction at the point-of-sale, to store vast quantities of transaction data in their data warehouse, and to use these data to execute marketing programs with a business partner or alone. Technology also enables the development of extensive customer databases, making it possible to deal with customers as individuals. Instantaneous access to the customer's history by a customer service representative allows standardized, impersonal encounters with whomever answers the 800-number to assume the appearance of a personal relationship (Gutek 1995). Therefore, the marketing strategies of successful firms increasingly depend on effective use of vast amounts of detailed customer transaction data (Bessen 1993, Blattberg and Deighton 1991, Glazer 1991).

This research addresses the tensions that arise in today's increasingly electronic world between the collection and use of personal information people provide in the course of most consumer transactions, and individual privacy. The hypothesis of the study is that consumers will be willing to disclose personal information and have that information subsequently used to create profiles for marketing use when their concerns about privacy are addressed by fair procedures. The major contribution of the research is that it provides empirical evidence that companies can gain competitive advantage by behaving ethically.

Transaction data generated by customer contacts before, during and after the sale are a critical resource in the increasingly competitive global economy that is moving from a paradigm of mass production and mass merchandising to one of mass customization and personal service (Glazer 1991, Pine 1993). Table 1 illustrates the

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Table 1 Summary of Transaction Data Collected at Point-of-Sale by Transaction Processing Method

Transaction Processing Method	Representative Technology at Point-of-Sale	Transaction Data Gathered at Point-of-Sale
Manual (customer not identified)	Cash register without scanner	Date, retail location, amount of purchase
Manual (customer identified)	Cash register; credit card	Date, retail location, customer, amount of purchase
Point-of-Sale (customer not identified)	Cash register with scanner; inventory database	Date and time, retail location, items purchased, amount of purchase
Point-of-Sale (customer identified)	Cash register with scanner or mail order; credit card or customer account; inventory and customer databases	Date and time, retail location, items purchased, amount of purchase, customer
Online (customer identified)	Computer-to-computer, credit card or customer account; inventory and customer databases	Date and time, browsing patterns, items purchased, amount of purchase, customer

data typically generated during a sales transaction. The richness of the data varies depending upon the technology employed, ranging from a cash register without scanning capability where essentially no customer data is recorded to an online service where all of the customer's "mouse tracks" are recorded (Miller 1996). Advances in telecommunications and database technology mean that all transaction data should be accessible on a timely basis to everyone in the firm with a need for the data. For example, data collected about product returns in Europe can be used by marketers in the U.S. or by a plant manager in Mexico to address potential problems in product design or changes in customer preferences as soon as enough products are returned, and the aggregated data about these returns makes the organization aware that a problem may exist. Transaction data signaling increased sales or the success of an advertising campaign for a target market segment or even an absence of sales data where sales were expected serve the same signaling function to the firm. Because these individual transactions are in reality, "messages" from customers to the firm that should be distributed as appropriate to functions across the value chain, information systems that process these transactions are in fact organizational information systems (Culnan 1992). Organizations can gain competitive advantage by collecting and using transaction data effectively (Glazer 1991).

The use of transaction data as an organizational resource can create positive or negative outcomes to a firm, based on how the information is used. In positive terms, the use of transaction data to yield better customer service, higher quality products, and new products that reflect consumer preferences creates benefits for both consumers and the firm. The collection of detailed information on consumer preferences enables firms to engage in relationship marketing and to target offers more accurately based on their customers' specific interests (Blattberg and Deighton 1991, Glazer 1991).

There is also a potential downside to the collection and use of greater amounts of increasingly detailed personal information. Ironically, the same practices that provide value to organizations and their customers also raise privacy concerns (Bloom et al. 1994). Privacy is the ability of the individual to control the terms under which personal information is acquired and used (Westin 1967). Personal information is information identifiable to an individual. As Table 1 illustrates, today's customers leave more electronic footprints detailing their behavior and preferences; their buying habits are easily profiled, and can be readily shared with strangers. If the firm's practices raise privacy concerns resulting from a perception that personal information is used unfairly, this may lead to customers being unwilling to disclose additional personal information, customer defections, bad word of mouth, and difficulty attracting new customers, all of which can negatively impact the bottom line. The growth of the Internet and other online systems also makes it possible for consumers to engage in "electronic retaliation" if they object to a company's practices, by "flaming" the company directly by electronic mail (Bies and Tripp 1996), or by posting negative public comments to a computer discussion group. As the text of Internet discussion groups are archived and can be easily searched by keyword such as company or product name, these negative comments live on long after they were posted. The challenge to organizations, then, is to balance the competing forces of the power of information with privacy in their dealings with their customers.

The failure to use personal information fairly or responsibly may raise two kinds of information privacy concerns resulting from the inability of an individual to control the use of personal information. First, an individual's privacy may be invaded if unauthorized access is

gained to personal information as a result of a security breach or an absence of appropriate internal controls. Second, because computerized information may be readily duplicated and shared, there is the risk of secondary use, that is information provided for one purpose may be reused for unrelated purposes without the individual's knowledge or consent. Secondary use includes sharing personal information with others who were not a party to the original transaction, or the merging of transaction and demographic data to create a computerized profile of an individual by the organization that originally collected the information (Culnan 1993, Godwin 1991, Foxman and Kilcoyne 1993, Smith et al. 1996). This paper addresses the latter concern, secondary use, where organizations make deliberate choices about reuse of their customers' personal information, and where the customer may perceive the reuse as varying from their expectations for fair use, done without their consent, and therefore unfair.

Theoretical Background and Hypotheses

Privacy and Fairness

Prior research on privacy found that individuals are willing to disclose personal information in exchange for some economic or social benefit subject to the "privacy calculus," an assessment that their personal information will subsequently be used fairly and they will not suffer negative consequences (Laufer and Wolfe 1977, Milne and Gordon 1993, Stone and Stone 1990). For example, a recent survey of Internet users conducted by Georgia Tech found that 78% of the survey participants would be willing to provide demographic information about themselves to the owner of a web site if "a statement was provided regarding how the information was used." Only 6% of the participants would not disclose demographic information under any circumstances (Georgia Tech 1996).

In general, individuals are less likely to perceive information collection procedures as privacy-invasive when (a) information is collected in the context of an existing relationship, (b) they perceive that they have the ability to control future use of the information, (c) the information collected or used is relevant to the transaction, and (d) they believe the information will be used to draw reliable and valid inferences about them. See Bies (1993) and Stone and Stone (1990) for an extensive review of this literature. While the self-disclosure literature has focused on interpersonal relationships rather than impersonal customer relationships between individuals and firms, its findings are consistent regarding a balancing test. People disclose personal information to gain the benefits of a close relationship; the benefits of disclosure are balanced with an assessment of the risks of disclosure (Derlega et al. 1993).

Creating a willingness in individuals to disclose personal information, then, requires that organizations also view the collection of personal information as a "social contract" with their firm where in addition to exchanging money for products or services, the customer also makes non-monetary exchanges of personal information for intangible benefits such as higher quality service described above (Glazer 1991, Milne and Gordon 1993). Customers will continue to participate in this social contract as long as the perceived benefits exceed the risks. Developing information practices that address this perceived risk results in positive experiences with a firm over time, increasing the customer's perceptions that the firm can be trusted. Trust reflects a willingness to assume the risks of disclosure (Mayer et al. 1995). Trust creates switching costs, increasing the likelihood that the customer will continue in the relationship with the firm (Gundlach and Murphy 1993). Managing this "second exchange" in a marketing transaction by treating customer information fairly, then, is essential to building trust in a customer relationship.

Some industry groups have argued that privacy is a customer service issue (Direct Marketing Association 1994, Dowling 1993). While the literature on customer service has not specifically addressed privacy, it has established a link between being treated fairly and customer satisfaction (Schneider and Bowen 1995). Berry (1995) found that customers see fairness and service quality as "inseparable issues"—since customer perceptions drive service quality, a service that is perceived as being unfair will also be perceived as being lower in quality. Conversely, the perception of fair treatment of customers has been shown to be positively related to higher levels of satisfaction in services (Clemmer and Schneider 1996). These authors found this link between fair treatment and customer satisfaction to hold across all four of the service industries they studied. They found that customers evaluate the fairness of the core service received, the procedures used in service delivery, and the personal treatment received. Fairness is inherent in the consumer's basic need for justice. A violation of this need, such as violating a psychological contract, will result in angry and disloyal customers as described above. Heskett et al. (1990) note that "many differences attached to the value of a service by customers are explained by the level of risk perceived by the customer . . . and the degree to which such risks can be minimized by the service provider." The customer who discloses personal information runs the risk that the

information will not be used fairly. Companies that establish fair information practices and disclose these practices before collecting personal information from customers are greatly reducing these perceived risks and the subsequent negative consequences.

One goal of offering high quality service is to keep customers coming back and to attract new ones through positive word-of-mouth. Gutek (1995) notes that as the customer uses the service over time (assuming he or she continues to perceive the service as fair), trust builds between the customer and service provider. This trust is crucial, since customers often lack the expertise or the first-hand knowledge to know whether the service provided is correct (Shapiro 1987). If the trust is low, then the customer will likely take his or her business elsewhere. If the customer has absolute trust in the provider, then the provider will be able to learn more about the customer in order to serve customers better. However, absolute trust also provides a potential opportunity for the company to exploit the customer (Gutek 1995, Shapiro 1987). The literature on organizational justice suggests that procedural fairness of company practices can have a major positive impact on trust and privacy perceptions (Bies 1993).

Procedural Fairness

Procedural fairness refers to the perception by the individual that a particular activity in which they are a participant is conducted fairly (Lind and Tyler 1988). Factors that contribute to perceptions of procedural fairness include providing the consumer with voice, and control over actual outcomes (Folger and Greenberg 1985, Lind and Tyler 1988). Research has shown that even if outcomes are not favorable to an individual, individuals are less likely to be dissatisfied with unfavorable outcomes if they believe that the procedures used to derive those outcomes are fair (Lind and Tyler 1988, Greenberg 1987, Folger and Bies 1989).

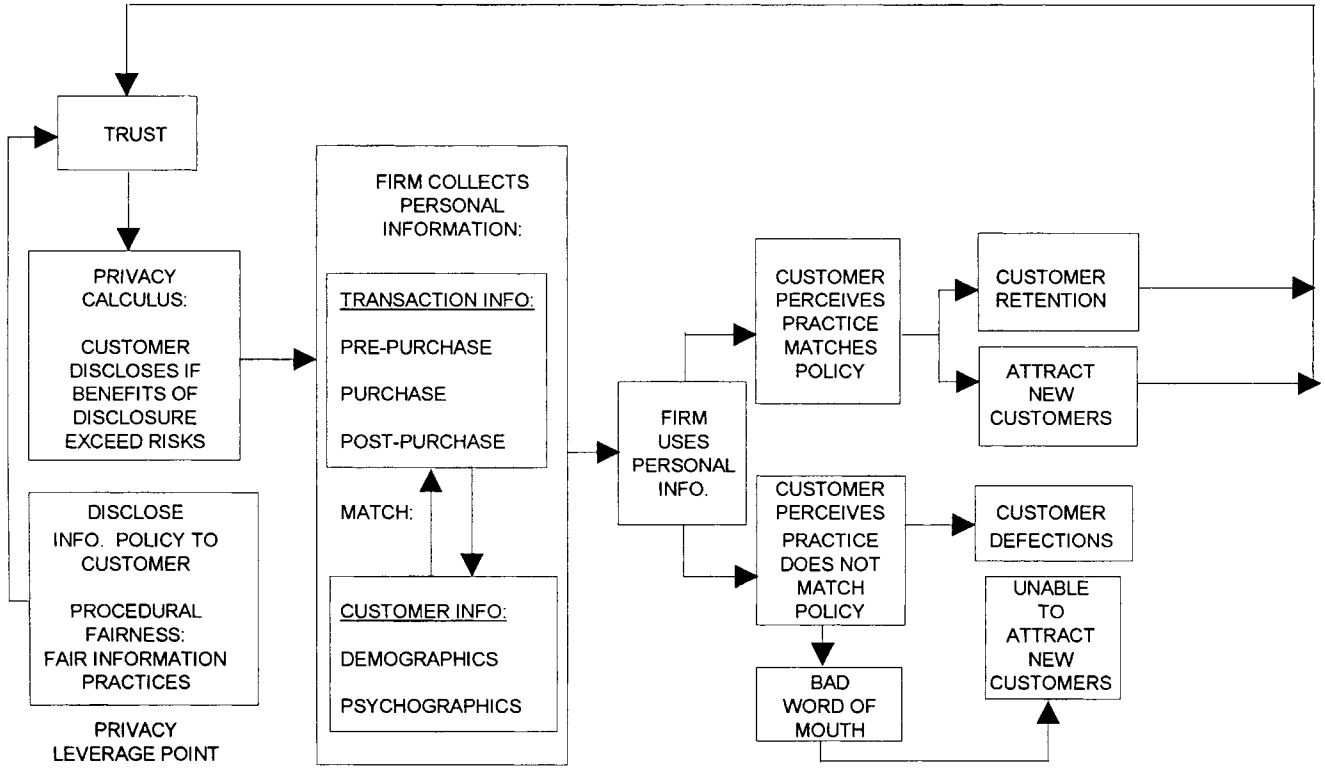
For consumer marketing, fair information practices operationalize procedural fairness. Fair information practices are procedures that provide individuals with control over the disclosure and subsequent use of their personal information. They are global standards for the ethical use of personal information and are at the heart of U.S. privacy laws, the privacy directive adopted by the European Union in July 1995, and the Clinton Administration's June 1995 guidelines for personal information use by all National Information Infrastructure participants.

At the heart of fair information practices are two concepts: notice and consent. These two concepts are reflected in the following principles. When they provide personal information, people have the right to know why the information is being collected, its expected uses, the steps that will be taken to protect its confidentiality, integrity and quality, the consequences of providing or withholding information, and any means of redress available to the individual. People also have the right to control how their personal information will subsequently be used by objecting to uses of their personal information when information will be collected for one purpose and used for other purposes. Fair information practices also state that personal information should not be used in ways that are incompatible with the individual's understanding of how it will be used unless there is a compelling public interest for such use (U.S. IITF 1995). Fair information practices, therefore, mediate the privacy concerns raised by disclosure and subsequent use of personal information by empowering the individual with control and voice, *even if people do not choose to invoke the procedures*, as well as an assurance that the firm will adhere to a set of principles that most customers find acceptable (Folger and Bies 1989, Folger and Greenberg 1985, Greenberg 1987, Lind and Tyler 1988, Mayer et al. 1995, Shapiro 1987, Stone and Stone 1990). Fair information practices, then, make the "deal" with the consumer fair (Donaldson and Dunfee 1994, Milne and Gordon 1993).

In marketing, a central element of fair information practices is the ability of individuals to remove their names from mailing lists. The 1990 Equifax survey found the majority of the public believes it is acceptable for direct marketers to use names and address on a mailing list if people who do not want to receive mail offers could remove their names from the mailing list. Culnan (1995) found that people who were aware of name removal procedures had a lower concern for privacy than those who were not aware of these procedures, suggesting that awareness of fairness procedures can address the privacy concerns associated with disclosure and use of personal information (Greenberg 1987).

Procedural fairness, then, can create a "privacy leverage point" for organizations by providing an opportunity for the firm to promote the customer disclosure of personal information by disclosing its information policies to the customer or prospective customer, provided its subsequent practices are consistent with the policy. Figure 1 illustrates the role of procedural fairness in building trust over the life of a customer relationship where customers must rely on "strangers" to protect their interests (Shapiro 1987). Over the life of a customer relationship, firms potentially gather large amounts of personal information about their customers. Some of this is gathered directly as a result of each transaction, other information is acquired from third parties, allowing the firm to develop an

Figure 1 Privacy Leverage Point



extensive profile for each customer. Data warehouse technology allows the firm to perform sophisticated analyses on massive amounts of transaction data and to develop marketing programs for individual customers. As described previously, other online technologies make these data available for use throughout the organization, independent of physical location. Based on their subsequent experiences with the firm, customers make an assessment of whether or not they perceive that their personal information was used consistently with their expectations. If the information was used consistently, the customer is likely to stay in the relationship. If not, the customer may be likely to defect and/or to engage in bad word of mouth (Morgan and Hunt 1994). The privacy leverage point, then, provides an intervention opportunity for firms to build trust with their customers as they collect and use personal information, therefore making customers willing to disclose personal information by minimizing the risks of disclosure to these individuals.

Hypotheses

This study hypothesizes that procedural fairness can strike a balance between the competing forces of privacy and information use. When taken together, the literature on privacy, self-disclosure and procedural justice suggest that procedural fairness, defined here as fair information practices, can mediate the privacy concerns that often arise when customer transaction data and other personal information are merged to create profiles for use in targeted marketing. However, this relationship has not been tested empirically. This study will test two hypotheses that address the relationship between procedural fairness and privacy:

HYPOTHESIS 1. *When people are* not *explicitly told that fair procedures will be employed for managing their personal information, people with a greater concern for privacy will be less willing to have their personal information used for profiling.*

HYPOTHESIS 2. *When people* are *explicitly told that fair procedures will be employed for managing their personal information, privacy concerns will* not *distinguish people who are unwilling to be profiled from those who are willing to have their personal information used for profiling.*

Prior experience should also influence an individual's willingness to be profiled. Individuals who have prior experience with direct or targeted marketing are more likely to understand the benefits of profiling and to also to be

aware of fair information practices as a means for exercising control over their personal information (Culnan 1995). Those with experience should also have developed a degree of trust in the process as Figure 1 illustrates, and should be more willing to have their personal information used in this way. For these individuals, profiling is likely to be perceived as compatible with their existing values and past experiences (Rogers 1983). This suggests:

HYPOTHESIS 3. *Prior experience with targeted marketing will distinguish people who are willing to have their personal information used for profiling from those who are not willing.*

Methodology

The context for the research is the use of personal information gathered from prospective subscribers to interactive home information services and the willingness of consumers to allow personal information to be used in targeted advertising based on customer profiles compiled by the interactive service providers. The study is based on a fresh analysis data from the 1994 Harris Survey on Interactive Services, Consumers and Privacy. The survey was designed and sponsored by *Privacy and American Business.* Data were collected by Louis Harris & Associates by telephone from a random sample of 1,000 U.S. adults age 18 and older.

Dependent Variable

Willingness to have one's personal information used to develop profiles for targeted marketing was measured by two variables. First, willingness to have personal information to be used for profiling *without* being explicitly told that fair information practices would be employed was measured by two four-point Likert-scaled items ranging from "not at all interested" to "very interested":

- How interested would you be in having this type of advertising [based on subscriber profiling] presented to you from time to time, on your computer or T.V. screen? (mean = 2.32, s.d. = 0.97); and
- The interactive services provider could also ask you to check off your interests and activities from a list on the TV or computer screen, so that special offers could be made to you on-screen. How interested do you think you would be in doing that? (mean = 2.32, s.d. = 1.01).

The two variables were factor analyzed using a varimax rotation. Both items loaded unambiguously on a single factor and were combined to form a "use without fair information practices" (USE-NO FIP) scale ($r = 0.58$, $p < 0.001$; Cronbach alpha = 0.74).

Attitudes toward having personal information used in profiling *if* individuals were explicitly told fair information practices were observed (USE-FIP) was measured by a single item, "If the rules and safeguards I've just mentioned were adopted by companies offering interactive services, how interested would you be in subscribing to a system that used subscriber profile marketing?" (mean = 2.59, s.d. = 1.03).

The rules and safeguards comprising fair information practices were read to the survey participants *before* the "USE-FIP" question was administered and were defined as follows:

- Before you decided to subscribe, the service provider would inform you fully about the collection of subscriber profile information and how it would be used;
- You could control the types of products and services advertised to you as well as *when* and for *how long* advertising messages would be displayed on the screen;
- You could indicate what information in your subscriber profile could be used for marketing and what couldn't; and
- You could review the information in your subscriber profile and correct any errors.

For each item, respondents were asked the importance of the practice on a 4-point Likert scale. The four items were factor analyzed using a varimax rotation. All four items loaded unambiguously on a single factor (Cronbach alpha = 0.88).

The questionnaire items were administered in the following order. The USE-NO FIP items were administered first. Second, respondents were asked about the importance of fair information practices. Finally, the USE-FIP item was administered.

Independent Variables

In an absolute sense, individuals surrender a measure of privacy whenever they disclose any personal information. Therefore, taking overt steps to restrict the disclosure of personal information should reflect a concern for diminished privacy that would result from disclosure. The first independent variable, behavior that indicated a concern for privacy, was operationalized using three dichotomous variables that measured an individual taking steps to restrict the disclosure of personal information. The first two measured an individual's unwillingness to disclose personal information to others. The third measured whether an individual had ever been unwilling to allow personal information to be reused for targeted marketing by another organization:

- Have you ever refused to give information to a business or company because you thought it was not really needed, or was too personal, or haven't you? (Yes = 70%)
- Does your household have an unlisted or unpublished telephone number? (Yes = 23%)

• Have you ever asked an organization, such as a publication or business with which you have a relationship, to take your name off of any list they gave out to other organizations for sending you mail offers, or not? (Yes = 33%).

The three items were summed to form a scale (mean = 1.30, s.d. = 0.87).

The second independent variable, prior experience with direct marketing was measured by a series of dichotomous variables. The subjects were asked whether or not they had:

• Bought something from a catalog or brochure sent to your residence or workplace (Yes = 65%)

• Bought something offered to you by a telephone call to your residence or workplace (Yes = 14%)

• Bought something from a TV home shopping club (Yes = 13%)

• Called a toll-free or 800 number to order something (Yes = 46%)

• Used a 900 number that charged for information, products or services (Yes = 4%).

The responses to these items were summed to form a single variable, Direct Marketing Experience (DMEXP: mean = 1.49, s.d. = 1.08).

Table 2 and contains descriptive statistics for the dependent and independent variables. Table 2 also contains correlations for the two dependent variables and the independent variables.

Prior research has also established that individuals also vary in their concern for privacy, based on their demographics and life's experiences. For example, the Harris-Equifax Surveys found African Americans, Hispanics, women, and less educated people to be most concerned about privacy. Singer et al. (1993) found that both demographics and concern for privacy were significantly related to return rates for the 1990 census, however privacy concerns varied for white and African-American respondents. Culnan (1995) found that demographics, experience with direct marketing, and concern for privacy significantly discriminated among individuals who were versus those who were not aware of name removal procedures. These results suggest that here, an individual's willingness to have their personal information used for targeted marketing is also likely to reflect both their demographics and experience. However, prior research also suggests that these demographic differences are captured by both attitudinal and behavior variables (Ajzen and Fishbein 1980). Therefore, no additional demographic or experience variables were used in this study.

Table 2 Descriptive Statistics and Inter-Item Correlations for Dependent and Scaled Independent Variables

VARIABLE	MEAN	S.D.	1. Use-No FIP	2. Use—FIP	3. Privacy
1. Use—No FIP (2-item scale)	4.64	1.76			
2. Use—FIP	2.59	1.03	0.63[a]		
3. Privacy (Sum of 3dichotomous variables)	1.305	0.87	−0.05	0.03	
4. Direct Marketing Frequency (DM FREQ) (Sum of 5 dichotomous variables)	1.49	1.08	0.21[a]	0.18[a]	0.09[b]

[a] $p < 0.001$
[b] $p < 0.01$

Results

The hypotheses were tested using a discriminant analysis which examined the joint significance of the relationships in the hypothesized model (Hair et al. 1987). Discriminant analysis is the appropriate statistical technique for determining if significant differences exist between the profiles of two groups defined by a categorical dependent variable.

Discriminant analysis was used because the first dependent variable, USE-NO FIP, was not normally distributed. When the two items were summed to form the USE-NO FIP scale, the resulting distribution consisted only of even values. The use of a dichotomous variable to operationalize the dependent variable, willingness/unwillingness to be profiled, was appropriate given the hypotheses to be tested.

Both dependent variables were subsequently recorded as dichotomous variables. For both variables, observations with values above the mean were coded as one, and those below the mean were coded as zero. A separate discriminant analysis was performed for each of the two dependent variables using the two independent variables: privacy and direct marketing experience. These results are shown in Table 3 and Table 4.

Table 3 summarizes the results for the first dependent variable, use without being explicitly told that fair information practices would be observed (USE-NO FIP). Both of the independent variables are significant discriminators of those who are willing versus those who are not willing to be profiled without fair information practices. The overall results for the discriminant function were also significant (Chi-Square = 20.75, 2 d.f., p. < 0.001). The function correctly classified 56.1% of the cases in the holdout sample. This is greater than the proportional chance criterion of 50.8%, which is calculated as $C_p = p^2 + (1 - p)^2$, where p is the proportion of people in

Table 3 Discriminators of Willingness to Be Profiled Without Fair Information Practices (USE-NO FIP)

Eigenvalue	Canonical Correlation	Wilks' Lambda	Chi-squared	df	Significance	Holdout Sample Correctly Classified
0.05	0.2154	0.954	20.75	2	0.00001	56.06%

Group	Discriminant Function Group Means (Centroids)
0 (Not willing)	−0.23
1 (Willing)	0.21

Independent Variable	Standardized Canonical Coefficients	Structure Matrix: Pooled-within-Groups Correlations
Privacy	−0.53	−0.46
Direct Marketing Frequency (DM FREQ)	0.89	0.84

Table 4 Discriminators of Willingness to Be Profiled with Fair Information Practices (USE—FIP)

Eigenvalue	Canonical Correlation	Wilks' Lambda	Chi-squared	df	Significance	Holdout Sample Correctly Classified
0.0168	0.129	0.983	7.28	2	0.026	60.04%

Group	Discriminant Function Group Means (Centroids)
0 (Not willing)	−0.17
1 (Willing)	0.10

Independent Variable	Standardized Canonical Coefficients	Structure Matrix: Pooled-within-Groups Correlations
Privacy	0.14	0.19
Direct Marketing Frequency	0.98	0.99

group 1 and $(1 - p)$ is the proportion of people in group 2. We can interpret the structure correlations as factor loadings to determine the variables that make the greatest contribution to the discriminant function; generally, the variables with correlations that exceed |0.30| are considered significant (Hair et al. 1987). Both of the independent variables were significant.

Table 4 summarizes the results for the discriminant analysis using the second dependent variable, willingness to be profiled after being told explicitly that fair information practices would be observed (USE-FIP). Here, only independent variables for direct marketing experience is a significant discriminator with the structure correlation exceeding 0.30. The overall function is also significant (Chi-Square = 7.28, 2 d.f., $p < 0.05$). The discriminant function correctly classified 60.0% of the holdout sample which is greater than the proportional chance criterion of 52.0%.

These results provide support for the three hypotheses. The first two hypotheses postulated that privacy would distinguish people who are willing to be profiled from those who are unwilling to be profiled only when people were *not* told that fair information practices would be observed. As hypothesized, the privacy variable was a significant discriminator only in the first discriminant analysis. In the second discriminant analysis, the privacy variable is not a significant discriminator, providing support for the hypothesis that privacy concerns can be addressed by explicitly telling customers that the company observes fair information practices.

The third hypothesis postulated that prior experience would also discriminate between people who are willing to be profiled. In both discriminant functions, the direct marketing experience variable is significant, providing support for this hypothesis. People who are willing to be profiled for marketing purposes are more likely to have prior experience with direct marketing than people who are not willing.

Discussion

Effective use of customer information to support activities across an organization's value chain has become a competitive necessity. The key challenge to organizations is to balance the competitive advantages provided by the use of this information with the privacy concerns that use of personal information may raise among its customers. This study addressed the role of procedural fairness in addressing the privacy concerns that may be raised when personal information is used to develop marketing profiles. The results suggest that companies can gain business advantage through customer retention by observing procedural fairness.

The research has some methodological limitations. As described above, the study was based on secondary data analysis of a survey designed to measure public opinion; the original research was not driven by any theoretical model or framework. Individual questionnaire items were designed to be unbiased, but not necessarily to pass psychometric muster such as the need to use multiple items to measure attitudes. The variables used in the present study were constructed after the fact and as a result, some of them lack the psychometric properties one would expect in a study that was under the total control of the authors. Therefore the results should be viewed with some caution. The strengths of the research are that the data represent a national random sample of U.S. adults rather than a convenience sample, and the results are consistent with theory.

The study found that when people were explicitly told that fairness procedures in the form of fair information practices are observed, only prior experience distinguished individuals who were willing to be profiled from those who were not willing. When people were not explicitly told that fair information practices were observed, both privacy and experience distinguished the individuals who were willing from those who were not willing to be profiled. This suggests that procedural fairness can successfully address privacy concerns, and when fair information practices are observed, customers will be more willing to continue in a relationship with a firm, allowing the firm to benefit from the collection and use of data that results from the relationship. These results are also consistent with prior research related to disclosure of personal information by Internet users (Georgia Tech 1996). While industry codes of conduct have called for firms to observe fair information practices if they want to be perceived as behaving ethically, this is the first empirical study to find that observing fair information practices is in the business interests of marketers because building trust through fairness is one basis for attracting and retaining customers as Figure 1 illustrates.

Since fairness appears to be a key factor in addressing privacy concerns, the results also suggest that procedural justice is a promising theoretical basis for future research on information privacy. Much of the organizational research on justice has focused on the fairness of both outcomes and procedures related to personnel decisions such as layoffs, pay freezes, or the introduction of drug testing policies (Bies 1993). This study suggests that in addition to understanding the relationships between organizations and their employees, this theory can also be used investigate the relationship between organizations and their customers. For example, Brockner and Siegel (1996) reviewed the procedural justice literature and reported that the level of procedural fairness influences the degree of trust in exchange relationships. Figure 1 shows trust moderated by fair information practices as a key factor in an individual's decision to maintain a customer relationship with a firm where the customer will disclose large amounts of personal information over the life of that relationship. The influence of procedural fairness on customer loyalty, particularly if the customer experiences a negative outcome involving personal information use without defecting, merits investigation. This is particularly important in electronic environments, where the evolution of shared norms about fair use of personal information often lag the capability of the technology.

The study, however, differs from much of the prior research on trust as it focuses on impersonal trust, or trust in institutions. Much of the prior research on trust has

focused on interpersonal trust where two or more individuals have first-hand knowledge of one another as in the case of workplace relationships, or business-to-business marketing relationships between buyers and a sales representatives (see for example Kramer and Tyler 1996 and Morgan and Hunt 1996). Consumer marketing relationships are usually characterized by great social distance: customers may not deal with another person in the case of Internet commerce, or are unlikely to know any of the people they deal with in the case of face-to-face or telephone transactions. Because customers must depend on strangers to act on their behalf, procedural fairness operationalized as fair information practices acts a fiduciary norm to build trust when control measures derived from social ties and direct contact between the customer and the firm are unavailable, when faceless and readily interchangeable individual or organizational agents exercise considerable delegated power or privilege on behalf of customers who can neither specify, scrutinize, evaluate, nor constrain their behavior (Shapiro 1987, Zucker 1986).

Because it is impossible for firms to go back to their customers for permission each time a new use for personal information is contemplated, these findings should also have important implications for practice. Firms which implement fair information practices, and disclose these practices to their customers can exercise latitude in how they use personal information gathered from transaction data for marketing without risking customer defections and the other negative outcomes described previously provided they ensure that their practices are consistent with what they disclosed to their customers. However, if fair information practices are not embedded in the work practices of all employees, there is a risk that a customer service representative or product manager may allow personal information to be used in a way that is at odds with the customers' norms for acceptable use, resulting in a customer, media, or regulatory backlash. Creating a "culture of privacy" within the organization clearly involves more than creating a privacy policy based on fair information practices. A senior manager needs to champion privacy. Employees need to be trained and retrained. Periodic audits should be conducted to ensure that practices conform to policy. Privacy should be made part of the business case for all new uses of personal information.

There is some evidence that all U.S. firms have not assimilated this message about the importance of managing customer privacy issues strategically (Schwartz and Reidenberg 1996). The Harris-Equifax privacy surveys consistently find that the majority of consumers believe they have lost all control over how their personal information is used by business (Harris 1990–1994). Smith (1995) investigated how seven different organizations in four industries responded to growing concerns about privacy. He observed a three-phase cycle of response: drift, external threat, and reaction. Rather than address privacy issues proactively, these firms delegated responsibility for privacy to lower-level managers. New policies were developed only in response to an external threat or crisis.

Further research is needed to understand how to measure privacy as an attitude. For example, Table 2 shows an unexpected significant positive correlation between privacy and direct marketing experience. It may be that privacy concerns may be driven by experience and by context, and that people do not develop attitudes about privacy until they have had some experience with a particular use of personal information as prior research has suggested (Culnan 1995). Smith, Milberg and Burke (1996) developed and validated a scale to measure individuals' privacy concerns with corporate information practices such as sharing information with third parties. However, there is no validated scale to measure overall privacy attitudes.

Finally, this study only considered one aspect of fairness, procedural fairness. It addressed consumer perceptions of the fairness of information use based on what the firm disclosed to the consumer about its information-handling procedures. The study did not address perceptions of fairness related to the actual ways the firm subsequently reuses personal information. Distributive fairness relates to ways a firm uses the personal information in its customer database or data warehouse on a day-to-day basis, and whether or not the customer perceives these uses as being fair or unfair. The justice literature suggests that even when a particular outcome is perceived negatively, customers should be less likely to defect from a relationship if they perceive the process by which their data were collected and used to be fair (Lind and Tyler 1988). In order to understand whether both procedural fairness and trust can buffer a firm from the negative consequences portrayed in Figure 1 such as defecting when a customer perceives an outcome negatively, the interaction among procedural fairness, outcomes, and trust merits further investigation.

Tomorrow's emerging information environments will continue to provide greater decentralized access to personal information. This study showed that privacy is an organizational issue. Without an organizational policy governing fair use of personal information, organizations face the risk that information used inappropriately by a single employee or by a single department can have negative consequences for the entire firm. Conversely, using

personal information fairly throughout the organization can provide a source of competitive advantage by promoting flows of customer data over time that in today's competitive global economy, are critical in support of all activities in a firm's value chain.

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References

Ajzen, Izek and Martin Fishbein (1980), *Understanding Attitudes and Predicting Social Behavior*, Englewood Cliffs, NJ: Prentice Hall.

Berry, Leonard L (1995), *On Great Service: A Framework for Action*, New York: The Free Press.

Bessen, Jim (1993), "Riding the Marketing Information Wave," *Harvard Business Review*, 71, 5 (September–October), 150–160.

Bies, Robert J (1993), "Privacy and Procedural Justice in Organizations," *Social Justice Research*, 6, 1, 69–86.

—— and Tripp, Thomas M. (1996), "Beyond Distrust: 'Getting Even' and the Need for Revenge," in R. M. Kramer and T. R. Tyler, *Trust in Organizations: Frontiers of Theory and Research*, Thousand Oaks, CA: Sage, 246–260.

Blattberg, Robert C. and Deighton, John (1991), "Interactive Marketing: Exploiting the Age of Addressability," *Sloan Management Review*, 33, 1, 5–14.

Bloom, Paul N., George R. Milne, and Robert Adler (1994), "Avoiding Misuse of Information Technologies: Legal and Societal Considerations," *Journal of Marketing*, 58, 1 (January), 98–110.

Brockner, Joel and Phyllis Siegel (1996), "Understanding the Interaction Between Procedural and Distributive Justice: The Role of Trust," in R. M. Kramer and T. R. Tyler, *Trust in Organizations: Frontiers of Theory and Research*, Thousand Oaks, CA: Sage, 390–413.

Clemmer, Elizabeth C. and Benjamin Schneider, (1996), "Fair Service," in T. A. Swartz, D. E. Bowen, and S. W. Brown, *Advances in Services Marketing and Management*, Greenwich, CT: JAI Press, 109–126.

Culnan, Mary J. (1992), "Processing Unstructured Organizational Transactions: Mail Handling in the U.S. Senate," *Organization Science*, 3, 1, 117–137.

—— (1993), " 'How Did They Get My Name'?: An Exploratory Investigation of Consumer Attitudes toward Secondary Information Use," *MIS Quarterly*, 17, 3, 341–364.

—— (1995), "Consumer Awareness of Name Removal Procedures: Implications for Direct Marketing," *Journal of Direct Marketing*, 9, 2, 10–19.

Derlega, Valerian J. et al. (1993), *Self-Disclosure*, Newbury Park: Sage Publications.

Direct Marketing Association (1994), *Fair Information Practices Manual*, New York: Direct Marketing Association.

Donaldson, Thomas and Thomas W. Dunfee (1994), "Toward a Unified Conception of Business Ethics: Integrative Social Contracts Theory," *Academy of Management Review*, 19, 3 (June), 252–284.

Dowling, Melissa (1993), "When You Know Too Much," *Catalog Age*, October, 73–75.

Folger, Robert and Robert J. Bies (1989), "Managerial Responsibilities and Procedural Justice," *Employee Responsibilities and Rights Journal*, 2, 2, 79–90.

—— and Greenberg, Jerald (1985), "Procedural Justice: An Interpretive Analysis of Personnel Systems," in Kendrith M. Rowland and Gerald R. Ferris *Research in Personnel and Human Resources Management*, Vol 3, Greenwich, CT: JAI Press, 141–183.

Foxman, Ellen R. and P. Kilcoyne (1993), "Information Technology, Marketing Practice, and Consumer Privacy," *Journal of Public Policy & Marketing*, 12, 1, Spring, 106–119.

Georgia Tech Research Corporation, (1996), "Fifth WWW User Survey," URL: http://www.cc.gatech.edu/gvu/user_surveys. April.

Glazer, Rashi (1991), "Marketing in an Information-Intensive Environment: Strategic Implications of Knowledge as an Asset," *Journal of Marketing*, 55, 4 (October), 1–19.

Godwin, Cathy (1991), "Privacy: Recognition of a Consumer Right," *Journal of Public Policy & Marketing*, 10, 1, Spring, 149–166.

Greenberg, Jerald (1987), A Taxonomy of Organizational Justice Theories, *Academy of Management Review*, 12, 1, 9–22.

Gutek, Barbara A. (1995), *The Dynamics of Service*, San Francisco, CA: Jossey-Bass.

Hair, J. E., R. E. Anderson, and R. I. Tatham (1987), *Multivariate Data Analysis with Readings.* New York: Macmillan.

Louis Harris and Associates, *Harris-Equifax Consumer Privacy Surveys, 1990–1994*, Atlanta, GA: Equifax, Inc.

Heskett, J. L., W. E. Sasser, and C. W. L. Hart (1990), *Service Breakthroughs: Changing the Rules of the Game*, New York: The Free Press.

Kramer, R. M. and T. R. Tyler (1996), *Trust in Organizations: Frontiers of Theory and Research*, Thousand Oaks: Sage.

Lind, E. Allan and Tom R. Tyler (1988), *The Social Psychology of Procedural Justice*, New York: Plenum Press.

Miller, Leslie (1996), "Think Nobody on the Net Knows Where You Visit? You're Wrong." *Sacramento Bee*, SC1, June 7.

Milne, George R. and Mary Ellen Gordon (1993), "Direct Mail Privacy-Efficiency Trade-offs Within an Implied Social Contract Framework," *Journal of Public Policy & Marketing*, 12, 2, Fall, 206–215.

Morgan, Robert M. and Shelby D. Hunt (1994), "The Commitment-Trust Theory of Relationship Marketing," *Journal of Marketing*, 58, 3 (July), 20–38.

Pine, B. J. (1993), *Mass Customization*, Boston, MA: Harvard Business School.

Rogers, Everett M. (1983), *Diffusion of Innovations*, 3rd Ed., New York: The Free Press.

Schneider, Benjamin and David E. Bowen (1995), *Winning the Service Game*, Boston, MA: Harvard Business School Press.

Schwartz, Paul M. and Joel R. Reidenberg, (1996), *Data Privacy Law*, Charlottesville, VA: Michie.

Shapiro, Susan P. (1987), "The Social Control of Impersonal Trust," *American Journal of Sociology*, 93, 3, 623–658.

Singer, Eleanor, Nancy A. Mathiowetz, and Mick P. Couper (1993), "The Impact of Privacy and Confidentiality Concerns on Survey Participation," *Public Opinion Quarterly*, 57, Winter, 465–482.

Smith, H. Jeff (1994), *Managing Privacy: Information Technology and*

Corporate America, Chapel Hill, NC: University of North Carolina Press.

——, Sandra J. Milberg, and Sandra J. Burke (1996), "Information Privacy: Measuring Individuals' Concerns About Corporate Practices," *MIS Quarterly*, 20, 2, 167–196.

Stone, Eugene F. and Dianna L. Stone (1990), "Privacy in Organizations: Theoretical Issues, Research Findings, and Protection Mechanisms," in K. M. Rowland and G. R. Ferris (Eds), *Research in Personnel and Human Resources Management*, Vol. 8, Greenwich, CT: JAI Press, 349–411.

U.S. Department of Health, Education and Welfare, Secretary's Advisory Committee on Automated Personal Data Systems, (1973), *Records, Computers and the Rights of Citizens*, Washington, DC: U.S. Government Printing Office.

U.S. Information Infrastructure Task Force (IITF), (1995), "Privacy and the National Information Infrastructure: Principles for Providing and Using Personal Information," Washington, DC: Department of Commerce.

Westin, Alan F. (1967), *Privacy and Freedom*, New York: Atheneum.

Zucker, Lynne G. (1986), "Production of Trust: Institutional Sources of Economic Structure, 1840–1920," in *Research in Organizational Behavior*, Vol. 8, Greenwich, CT: JAI Press, 53–111.

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