



# Provision of Internet privacy and market conditions: An empirical analysis

Yong Jin Park\*

*John H Johnson School of Communications, Radio, Television, & Film, Howard University, Washington, DC, USA*

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## ABSTRACT

Importing insights from an industrial organization model, this study analyzes the relationship between the provision of Internet privacy protection and market conditions. A composite sample of heavily trafficked and randomly selected sites was examined as to their level of privacy protection, as indicated by interface features of Notice and Choice. The analyses showed the limited supply of such functionalities by most websites, far short of the industry's standard of conduct. Logistic regressions demonstrated that domain and website attributes, indicative of market conditions, had minimal impact on the likelihood of high privacy provision. The findings shed critical lights on the market-based FTC Internet privacy principle that has been placed since 1998 and indicate the need for a new set of interface-focused policy proposals in domain-context specific regulations.

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## 1. Introduction

This empirical study examines the relationship between online market structure and the provision of privacy protection in a composite sample of 398 heavily trafficked and randomly selected U.S. commercial sites. It asks the following research question: How do online market conditions and website business characteristics affect the level of privacy protection?

For more than a decade, the Federal Trade Commission (FTC) has maintained a market-based approach to privacy protection. The FTC first placed Internet privacy on its policy agenda in 1998, recognizing industrial self-regulation as a de facto solution. In 2007, the FTC reaffirmed this stance in line with a series of studies it had commissioned in the late 1990s (FTC, 1998, 1999). The FTC (2009, p. 11) stated, “Companies must adhere to the promises they make regarding how they collect, use, store, and disclose data. ... [FTC] supported self-regulation because it provides the necessary flexibility to address evolving online business models”.

Most recently, in 2010, the FTC proposed an online “Do Not Track List” (FTC, 2010).<sup>1</sup> The creation of such a list concerning third party behavioral advertising could significantly expand Internet users' ability to protect their privacy. However, the implementation and enforcement of such a registry in interface functionalities has not been spelled out (thus, the FTC proposal effectively left the details of privacy features to the private sector) and there has been much resistance from online commercial entities (Wyatt & Vega, 2010). Furthermore, Congress's reluctance to revise the market-based policy undermines the prospect of a strong, enforceable privacy protection (Bamberger & Mulligan, 2011). The question arises as to the validity of the continuous market-based policy stance in the Internet, that is, whether and to what

\* Present address: 3735 Mazewood Lane, Fairfax, VA 22033, USA. Tel./fax: +1 703 657 2181.

E-mail address: [yongjinp@hotmail.com](mailto:yongjinp@hotmail.com)

<sup>1</sup> See also National Telecommunications and Information Administration (NTIA) proposal in 2010.

extent the market-based regulation has made a significant contribution to the provision of privacy protection. In other words, does the market-based approach as currently in effect under the FTC remain effective more than a decade after its inception?

The Fair Information Practices (FIPs) are at the heart of the FTC's policy stance. The FIPs are global principles that balance business needs for data collection with consumer protection. The 1980 Organization for Economic Cooperation and Development (OECD) Guidelines serve as a basis for the FIPs, as U.S. privacy laws, the 1996 EU Privacy Directive, and the Asian Pacific Economic Cooperation (APEC) Privacy Initiative have all adopted the OECD standard (see [Birnhack, 2008](#); [Park, 2008](#)).<sup>2</sup> In the U.S., since data protection is not strongly perceived as a matter of privacy that would entail the European model of strict legislations ([Richards, 2006](#)), the primary industry organization, such as the TRUSTe, embedded these principles in their concepts of Notice and Choice, reducing the original items into these two. This privacy standard has also been promoted by such mega sites as Google and Yahoo.

The FTC has retained its market-based stance partly due to the improvement in the implementation of the FIPs in ecommerce sites. Nevertheless, the specific website and market conditions that may influence such provision have been given less consideration as the scope of provision is up to the discretion of individual industry sectors. Further, the FTC assumes that privacy protection is actually enabled in the site's interface in the same way as it is written in the website's policy statement. That is, the improvement is judged by the site's stated adherence to FIP principles, not by assessment of actual usability, that is, the way in which specific links and site features are implemented. The FTC policy is not necessarily of its own choice, as it is constrained by a lack of oversight and enforcement power Congress fails to grant. Yet as the non-intervention policy had been the consistent framework up to 2009 and remains a de facto policy as of 2011, evidence of the presence (or absence) of benefits resulting from the FTC's continued reliance on market-based regulation is not readily available.

Scholars have examined the provision of privacy protection in various domain-specific areas.<sup>3</sup> Research on the effects of market conditions on privacy protection in commercial websites dates back more than a decade ([FTC, 1998, 1999](#)). However, most of the past studies in this area have been descriptive as the focus was on measuring the presence and absence of the Fair Information Practices (FIPs) elements. Although a market characteristic was implicitly used in these studies as a conditional variable for the presence of certain website features, numerous market variables were never actually analyzed in predictive models. Empirical studies that explicitly model the relationship between market structure and content are abundant in the broadcasting sector (e.g., [Berry & Waldfogel, 2001](#); [Chambers, 2003](#); [Napoli, 2004](#); [Yan & Park, 2009](#)), but few such comparable studies of websites exist. The present study contributes toward filling this area of Internet research by statistically examining how market and business characteristics affected the level of privacy provision in a group of commercial sites sampled in 2008.

The next section of this paper presents a brief framework of the industrial organization (IO) model. Market conditions, through domain and site characteristics, are identified, followed by research questions. Then the relationship between the provision of privacy control and website and domain-context characteristics is analyzed.

## 2. Framework

### 2.1. Organizational conduct and privacy provision

The industrial organization (IO) model is useful in understanding the causal linkage underlying the function of the marketplace ([Croteau & Hoynes, 2001](#)). Specially, the IO model delineates the relationship among structure, conduct, and performance in explaining organizational behavior. The model states that an industry's performance (the success of an industry in maximizing profit or producing benefits for the consumers) is based on the conducts of individual firms under the influences of multiple market factors. The structure of the industry, meanwhile, depends on basic regulatory conditions that can provide an incentive to the supply of a certain product ([Fig. 1](#)).

A multitude of components of market structure – such as product differentiation, vertical integration, and profit condition – can influence a firm's conduct in a particular area. Organizational conduct normally entails a stage of performance evaluation that takes into account critical institutional assessment, that is, a political or policy judgment of industry performance according to a normative standard. Here the criteria commonly include competing values of economic efficiency in a market and normative social optimum. A tension often arises as conflicting policy visions are incorporated into the regulatory condition in determining the function of the marketplace.

As the IO model conceptualizes the function of the marketplace, reliance on commercial entities for the provision of social optimum is a dubious task. Organizational conduct in the marketplace is incentive-driven, with profit maximization as the primary institutional basis of performance evaluation. In the broadcasting sector, few existing empirical evidence (e.g., [Bates, 1993](#)) has indicated that unique attributes from individual firms make little or no contribution to the supply of

<sup>2</sup> For detailed discussion on differences among national privacy regimes in the adoption of the OECD FIPs, see [Birnhack \(2008\)](#). [Richards \(2006\)](#) also discussed a U.S. regulatory tradition regarding data protection that is different from a global consensus on the FIPs and notably, the EU Data Directive in 1996.

<sup>3</sup> For example, see [Birnhack and Elkin-Koren \(2009\)](#) for public/private companies; [Bonneau & Preibusch \(2009\)](#) for social networking sites; [Milne, Culnan, and Greene \(2006\)](#) for ecommerce; [Schwaig, Kane, and Storey \(2005\)](#) for Fortune 500 companies, etc.

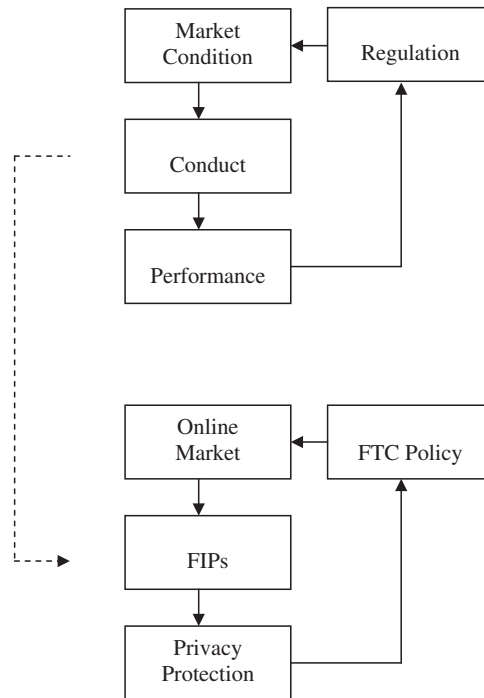


Fig. 1. Organizational conduct and privacy provision.

socially valued programs such as news. Other studies (Hamilton, 2001; Neuman, 1991; Yan & Park, 2009) have suggested that the marketplace alone may provide insufficient incentive to fulfill socially desirable policy objectives. In a similar vein, Hoskins, McFadyen, and Finn (2004) pointed out that the undersupply of certain goods is attributable to the marketplace's inability to internalize the benefits of providing the goods on the normative ground.

## 2.2. Internet privacy

Few studies have explicitly followed this line of research with regards to Internet privacy. In simple comparisons between popular and randomly chosen sites, the early FTC studies (1998, 1999) failed to analyze the potential influences of a multitude of market factors in assessing the level of privacy protection by commercial entities. Other advanced research, while examining in detail a domain-specific issue such as Facebook, has focused only on a single market characteristic. Yet importing the insights from the industrial organization model, it may be that the provision of privacy protection results from multiple factors. Whereas the marketplace, under no explicit FTC regulatory oversight, has been assumed to operate in favor of the normative interest of privacy rights, the industrial organization model suggests a different conclusion—namely, that a desire for marketplace efficiency may or may not translate into organizational conduct consistent with a socially desirable objective (Napoli, 2004) such as privacy protection. It is not clear that marketplace concerns should be sufficient to motivate companies to take somewhat burdensome steps, which lie beyond the scope of these companies' core online business practices to assure consumers' privacy protection.

### 2.2.1. Market: Domain-context and site factors

Thus the first task of this study is to apply the insights from the industrial organization to the present context, in accordance with the findings of previous studies of online privacy. As this study applies the IO model, it is important to recognize two levels of explanatory variables in the online marketplace: (1) domain-specific factors and (2) website-specific factors. The domain-context factors serve to measure whether the sites in a specific market segment are in fact more inclined to provide information protection. The website factors measure the influences of individual site attributes, such as financial resources (Schwaig et al., 2005) and the site's number of years in operation (Palmer, Bailey, and Faraj, 2000), in providing the incentives for further privacy provision.

This inclusion of domain and website factors in explaining organizational conduct in privacy protection provision is consistent with prior studies. LaRose and Rifon (2006) and Milne et al. (2006) urged considering the data sensitivity of different domains, such as ecommerce or health sites, in the assessment of voluntary adherence to the FIPs. Turow (2001) applied a similar logic to analyze child-oriented sites, on which adherence to the FIPs is mandated by the 1998 Children Online Privacy Protection Act. Schwaig et al. (2005) suggested that those sites with greater financial resources, as indicated by revenues and high levels of traffic, may be more responsive to public demand. In this regard, the website's market base

(i.e., the percentage of U.S. users) may be significant in measuring whether sites that mainly target the U.S. market, which is under the FTC's direct purview, perform better than others. Further, whether the online operation is horizontally integrated with an offline business is another factor meriting attention, as the wider scope of activity may make a business more interested in data surveillance and profiling (Danna & Gandy, 2002).

The point is whether and to what extent the attributes of websites, under no explicit regulatory mandate, contribute to the provision of privacy protection. This study empirically tests what marketplace effects, if any, are conducive to the industry's fulfillment of its own standard of Notice and Choice. In other words, this study aims to consider the effectiveness of the FTC's reliance on market integrity. This study will focus on websites' actual functionalities, not just their policy statements, so as to measure whether each interface is designed to function consistent with the spirit of the FIPs and thereby to ensure the protection of users' privacy.

### 3. Research questions

The relative paucity of empirical evidence hinders the formulation of hypotheses in specific directionalities. From the generic IO model (e.g., Croteau & Hoynes, 2001), however, it can be posited that website and domain attributes will have minimal effect on the extent of privacy provision, as indicated by Notice and Choice. Existing privacy literature (e.g., Culnan, 2000; LaRose & Rifon, 2006; Hong, McLaughlin, Pryor, Beaudoin, & Grabowicz, 2005; Turow, 2001) has also documented the limited function of site attributes in specific domains. On the other hand, there are a few recent findings regarding a positive relationship between certain market indicators, such as high ranks or sensitive domains, and the adoption of p3p (e.g., Birnhack & Elkin-Koren, 2009; Bonneau & Preibusch, 2009). These prior findings justify the posing of research questions, for the present study, regarding the extent of the provision of privacy protection in relation to various online market conditions.

The general research question is:

**RQ:** To what extent are the market conditions, as indicated in website business and domain characteristics, related to the level of privacy protection?

With regard to domain-context characteristics, the research questions include:

**RQ1a:** Do Internet shopping sites provide more protection than other types of domains?

**RQ1b:** Do websites associated with offline business operations differ from online-alone domains in privacy protection?

**RQ1c:** Is the sensitive domain higher in provision of privacy protection than non-sensitive sites?

At the site-specific level, the analysis focuses on four key indicators of website attributes:

**RQ2a:** Do highly ranked websites (in terms of traffic) perform better than lower-ranked ones?

**RQ2b:** Do publicly listed websites provide more functional options?

**RQ2c:** Do newer websites perform better than older websites?

**RQ2d:** Do U.S.-oriented sites provide privacy protection than sites not primarily oriented toward U.S. customers?

### 4. Methodology

#### 4.1. Sample

Consistent with the landmark FTC studies (1998, 1999), the sampling proceeded as follows. In the first group, the U.S. websites ( $n=153$ ) were identified from the 500 top-ranked sites in the world. In the second group, 500 websites were randomly selected from the first 10,000 AOL search queries.<sup>4</sup> The top and random samples were mutually exclusive. For the top-ranked sample, one government-operated site ([www.usps.com](http://www.usps.com)) was eliminated and three websites with identical privacy policies were excluded. Finally, a site with a U.S. Internet protocol (IP) address but operating under foreign ownership was eliminated. As a result, a total of 148 highly ranked sites were available for analysis.

For development of the random sample, multi-stage sampling was employed (Malhotra, 1999). First, the 500 user clusters of search queries were identified from a random start in the 10,000 AOL user search records. Second, an individual URL within each user cluster was randomly selected. Each cluster was mutually exclusive, consisting of about 20–70 unique URLs. With a total of 500 user clusters, this includes 10,000–35,000 sites from which to select the final samples. For the meaningful construction of the Internet universe, the sites lower than 100,000 in traffic share (according to [www.alexa.com](http://www.alexa.com)) were filtered. This study was conducted from within the U.S. in 2008, reflecting the site designs of the year and the access location (see Appendix for samples).

#### 4.2. Notes on coding

This research study requires measuring the actual functionalities of Notice and Choice as embedded in each website's interface. As noted earlier, checking the actual usability of specific site features is different from the FTC's presumption that a website's functionality is consistent with its policy statement. The Notice dimension is operationalized in three

<sup>4</sup> Random sites were selected, using <http://www.gregsadetsky.com/aol-data/>.

**Table 1**  
Notice and Choice.

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<i>Notice</i>
<b>Factor 1: Placement</b>
1.1. Presence of policy link in the front page
1.2. Link placed in a clear prominent place
1.3. Link placed in main menu
<b>Factor 2: Saliency</b>
2.1. Font size is larger than adjacent words
2.2. Font size is larger than the main text
2.3. Font color is different from adjacent words
2.4. Font color is different from the main text
<b>Factor 3: Labeling</b>
3.1. Correct label (privacy policy) visible
3.2. More clarities in labeling (e.g., your personal data use)
3.3. the link has other features (italics; highlighted; underlined) that make it stand out
<i>Choice</i>
<b>Factor 1: Data collection</b>
1.1. Edit function, e.g., preferences or profile
1.2. Availability of downloadable form to request, correct, or confirm data uses
1.3. The option of opt out
<b>Factor 2: Third party</b>
2.1. Link to privacy policies in third party sites associated
2.2. Click to opt out from associated organizations (e.g., IAB)
<b>Factor 3: Link to inquiry</b>
3.1. Active e-mail link to make inquiries
3.2. Out-link to complain or make inquires (FTC)

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factors: (1) prominence, (2) saliency, and (3) label; the Choice dimension is classified as (1) data collection, (2) third party (i.e., the transfer of data to external sites), and (3) inquiry<sup>5</sup> (see Table 1). The distinction between Notice and Choice can be described in terms of directionality: the Notice dimension concerns information flowing from the site to users, while Choice covers the results of possible actions taken by users of the site.

As the FTC has never operationalized the FIPs in terms of specific functionalities, the distinction between Notice and Choice is arbitrary to a certain extent. Yet the coded items remain in line with the Children Online Privacy Protection Act of 1998 and the California Online Privacy Act of 2003, which served as reference points for coders. Further, along with reliance on items from prior privacy and e-government studies, the FTC guidelines were consulted in modifying the coding scheme. The items were pretested by the coders and the principal investigator. The presence or absence of each criterion was coded in binary form (1=yes, 0=no). Font size was initially coded in three classifications (2=larger, 1=same, 0=smaller) but later collapsed into two (1=larger, 0=same and smaller), while a binary code was assigned for font color and style (1=different, 0=same).

#### 4.3. Reliability

Reliability was ensured in two directions: (1) intercoder and (2) inter-item. The level of Cronbach alpha for the total items was modest ( $\alpha=.626$ ). This result was partly due to the fact that the coded measures were dichotomous. The measure was cross-checked as intercoder reliability, based on 10% of the sampled sites, was calculated for both percentage of agreement and Cohen's kappa. The percentage of agreement (89% agreement in the total items) may raise the criticism because it can introduce too high numbers, especially with nominal observations. Cohen's kappa was calculated to accommodate the shortcoming ( $\kappa=.781$ ).

#### 4.4. Explanatory variables

As market factors were operationalized into site-specific and domain-context characteristics, a variety of external sources were used as references. Alexa.com was consulted for traffic ranking, website age, and U.S. vs. international user makeup. Coders identified domain characteristics through corporate information (e.g., About Us) in each site. Being listed on a public stock exchange was also consulted. Sensitive domain-contexts were specified into (1) family- or teen-oriented,

<sup>5</sup> Inquiry measures whether the interface is enabled for users to contact a site, internally, or the FTC, externally, regarding data practices. Thus, this factor does not directly relate to access to data retained by individual sites. Still, this study broadly construes Inquiry as a Choice dimension because in most sites this function is embedded as part of privacy statement, potentially enabling users' inquiry about data access, rectification, complaint, and alike (see FTC, 1998, 1999).

**Table 2**  
Variable names and descriptions.

Independent variables	Mean	SD	Definitions
Public	0.30	0.46	The site (or its parent company) listed in public stock market (1=yes, 0=no)
Ranking	56,978.3	302,953.7	Traffic ranking in September 2008 (000,000)
New	10.24	3.50	Number of years of operation
U.S. user	62.38	26.38	Percentage of U.S. users
Online	0.63	0.48	Whether the site operation is confined online (1=yes, 0=no)
Ecommerce	0.30	0.46	Ecommerce sites (1=yes, 0=no)
Sensitive 1	0.08	0.27	Whether a site is targeted toward children, teenagers, or younger users (1=yes, 0=no)
Sensitive 2	0.08	0.26	Whether a site deals with sensitive data (health or financial information) (1=yes, 0=no)

Notes: Data are for 2008, unless otherwise indicated. Summary statistics are based on 398 commercial sites included in the regression analysis.

**Table 3**  
Notice distribution.

Notice	Placement			Salience				Labeling		
	Front page	Prominent place	Main menu	Large size 1	Large size 2	Different color 1	Different color 2	Correct label	More clarities	Other features
Full										
%	87.9	4.5	2.0	4.5	7.1	7.9	61.7	73.4	4.2	40.3
SD	0.326	0.208	0.140	0.458	0.627	0.270	0.479	0.442	0.201	0.491
Top										
%	89.9	4.7	2.0	7.1	4.3	6.4	62.2	77.9	5.0	31.4
SD	0.303	0.213	0.139	0.517	0.581	0.246	0.476	0.417	0.219	0.466
Random										
%	86.7	4.4	2.0	2.9	8.8	8.4	61.4	70.8	3.8	45.4
SD	0.340	0.206	0.143	0.422	0.653	0.283	0.482	0.455	0.190	0.499

including such social networking sites as Facebook, and (2) website operations involving use of health-related or financial data (see Table 2).

#### 4.5. Analysis

In order to gauge the relationship between domain or site factors and the provision of privacy control, Pearson correlations were used to measure bivariate associations. Logistic regression was run on the level of provision (high and low), while controlling for other variables. The level of provision was dichotomized. For this step, the coded items were summated in each dimension and then combined, and a dichotomous value was assigned, 1 for higher than median and 0 for lower than median values. Descriptive data of discrete items under each factor were provided for overall assessment. To address concerns for multi-collinearity, all independent variables were standardized prior to entry into each model.

## 5. Results

The research questions asked whether market factors would have any effect on the extent of privacy provision, as indicated by actual functionalities of Notice and Choice. The expectation of minimal effect was generally confirmed in line by (1) the undersupply of discrete functions and (2) the finding of little or no contribution of site and domain factors in logistic regression analyses. For Notice, the mean number of criteria met on each site was 3.005, with  $SD=1.335$  (out of a possible 10). For Choice, the mean was 1.969,  $SD=1.635$  (out of a possible 7). Mean of the combined dimension was 4.981,  $SD=2.282$  (min=0, max=12). Median values for Notice, Choice, and the combined were 3.00, 2.00, and 5.00, respectively.

### 5.1. Discrete items

Tables 3 and 4 display the extent to which the sampled sites are designed for privacy protection in each dimension of Notice and Choice. In the Notice dimension, low levels of provision were found in all three factors. On the placement factor, only 4.5% of the sites provided policy links in a clear place, with just 2.0% placing this information in the main menu. With regard to salience, few sites differentiated font size and color from adjacent words and main texts. As for labeling, the sites tended to resort to a common generic term of “privacy policy” instead of a more direct label such as “your personal data use,” while 40.3% of the sites had the link style differentiated to stand out.

**Table 4**  
Choice distribution.

Choice	Data collection			Third party		Inquiry	
	Edit profile	Forms request, etc.	Opt out	Policies associated	Opt out, e.g., IAB	Active e-mail	Out-link
Full							
%	25.8	17.5	33.0	20.3	24.7	57.2	3.0
SD	0.438	0.380	0.471	0.402	0.512	0.495	0.172
Top							
%	39.2	16.9	45.9	35.8	35.1	62.2	4.7
SD	0.490	0.376	0.500	0.481	0.593	0.487	0.213
Random							
%	17.8	17.8	25.3	10.9	18.5	54.3	2.0
SD	0.383	0.381	0.437	0.313	0.441	0.499	0.141

**Table 5**  
Logistic regression: Likelihood of high privacy provision.

	r	Notice	r	Choice
Ecommerce	0.048	0.418 (0.380)	0.019	0.708 (0.376)*
Online-only	−0.033	0.441 (0.386)	−0.058	0.302 (0.371)
Sensitive 1	0.033	0.907 (0.821)	−0.022	0.301 (0.660)
Sensitive 2	−0.003	0.049 (0.587)	0.025	0.409 (0.578)
Ranking (reversed)	0.035	−0.078 (0.231)	0.309**	0.924 (0.248)**
Public	0.028	0.144 (0.371)	0.128	0.377 (0.374)
New	−0.074	−0.027 (0.054)	−0.252**	−0.053 (0.057)
US-oriented	0.148**	0.005 (0.007)	−0.043	0.006 (0.008)

Notes: standard errors are reported in parentheses.

\*  $p < .05$ .

\*\*  $p < .01$ .

On the Choice dimension, despite some increase compared to Notice dimensions, the low frequency of provision remained manifest. Only one-third of the sampled sites (33%) provided an “opt-out” option and most websites were likely to avoid edit function (25.8%) and download forms to correct for websites’ data uses and collection (17.5%). With regard to the third party factor, fewer than one-fourth of the sites (24.7%) had associated links and function. The sites were particularly reluctant to provide out-link inquiry options (3.0% for the FTC), while a majority of the sites (57.2%) preferred the provision of internal e-mail to the site.

With regard to both Notice and Choice items, while most sites were quick to resort to a few common and easy options (e.g., the placement of the policy link on the front page), other items with more intricate functionalities (e.g., main menu option or opt-out) were usually avoided. Low distributions and the small standard deviations in the provision of each item also indicate that the overall supply of privacy provision is miniscule regardless of sample tiers, with the presence of Choice functions concentrated in only a few sites.

## 5.2. Notice and Choice models

Table 5 presents the results from bivariate correlation and logistic regression analyses in each dimension of Notice and Choice. In the domain category, correlation coefficients indicated no significant relationship between independent and dependent variables. In the site category, there was a positive association between traffic rank and Choice provision ( $r = .309$ ,  $p < .01$ ), indicating that the top-ranked sites provided a greater number of discrete items. On the other hand, recency of website establishment was negatively correlated with Choice ( $r = -.252$ ,  $p < .01$ ); in other words, newer sites actually performed more poorly with regard to Choice provision. High U.S. user concentration was positively correlated with Notice factors ( $r = .148$ ,  $p < .01$ ). None of the remaining indicators displayed significant relationships.

Logistic regressions analyzed the extent of provision, taking into account every domain-context and site indicator. In Notice, the domain and site factors did not make a significant contribution at all. In Choice, the sites with high traffic rank were found likely to include more items ( $\beta = .924$ ,  $p < .01$ ). Being in the ecommerce domain had a positive effect on provision of Choice protections.<sup>6</sup> Overall, however, the impact of market indicators could be considered limited at best,

<sup>6</sup> Logistic regression is to measure the propensity of a binary outcome variable. However, the prediction for a dichotomous value assumes perfectly linear relationships with predictor variables, which may mask the sensitivity of data distribution. Given the binary assumption, the relatively large size of coefficient from traffic ranking or ecommerce in Choice should not be over-interpreted for substantial meaning.



**Table 6**  
Logistic regression: Likelihood of high privacy provision.

	<i>r</i>	Full	
<b>Domain-context level</b>			
Ecommerce	−0.041	0.075	(0.370)
Online-only	−0.039	0.218	(0.383)
Sensitive 1	0.027	0.892	(0.817)
Sensitive 2	0.054	0.834	(0.646)
<b>Site level</b>			
Ranking (reversed)	0.156**	0.596	(0.244)*
Public	0.139*	0.344	(0.389)
New	−0.197**	−0.096	(0.058)#
US-oriented	0.080	0.004	(0.008)
<b>Model fit</b>			
Full models	$\chi^2$	pseudo $R^2$	
Model 1: Domain-context	3.087	0.011	
Model 2: Site level	14.757	0.094	
Model 3: Combined	18.929	0.119	
N=398			

Notes: standard errors are reported in parentheses.

\*  $p < .05$ .

\*\*  $p < .01$

#  $p < .10$

**Table 7**  
Summary of findings.

Research questions	Findings
RQ1: Domain-context	No relationship
RQ1a: Ecommerce	No impact
RQ1b: Online-only	No impact
RQ1c: Sensitive domain	No impact
RQ2: Site level	Mixed
RQ2a: Ranking	Positive
RQ2b: Public	No impact
RQ2c: New	Negative impact
RQ2d: U.S. user-based	No impact

because no other domain and site variables were found to be significant in predicting the likelihood of higher provision. This lack of site or domain-specific effect suggests that the sites and the domains that one might have expected to be more responsive to public concern performed no better than other sites.

It is important to highlight that the significant bivariate correlations disappeared after controlling for other variables. This result can be attributed to the fact that correlations did not capture associations beyond single factors and each of the dimensions, one by one. Also, this result suggests that it may be spurious, based on correlations, to assume that the marketplace is having a certain impact when, in actuality, multiple, intertwined factors are influencing the website operator's conduct.

### 5.2.1. Full models

The full dimension, with Notice and Choice combined, captured the entire functionalities of privacy control, while analyzing explanatory powers from the domain and site-level contributions, separately and combined. As shown in Table 6, no domain-level factors were found to explain the provision of privacy by individual websites. At the site level, there was some indication of better performance by the sites with high traffic ( $\beta = .596$ ,  $p < .05$ ). This result reflects the higher frequency of Choice options among the top sites. However, it should be noted that, in an absolute sense, the level of privacy provision remained inadequate even among the top-ranked sites, with an average of 5.664 ( $SD = 2.352$ ) out of a possible score of 17. Furthermore, the lower provisions of newer sites ( $\beta = -.096$ ,  $p < .10$ ) and the insignificance of other variables indicated that the likelihood of high provision was quite limited when the dimension was taken into account as a whole. The small model fits in domain, site, and combined models ( $R^2 = 0.011$ ,  $0.094$ ,  $0.119$ ) also suggest that marketplace factors have made minimal contribution to the higher level of privacy provision. In sum, the expected function of multivariate factors, in regard to the overall hypothesis, is confirmed and summarized in Table 7.



## 6. Policy discussion and implications

The analyses aimed to empirically observe the extent to which the online marketplace, under no regulatory mandate, is conducive to the provision of privacy protection. In other words, this study sought to determine whether the market structure, as indicated by domain and site factors, has any systematic relationship to the provision of the design functionalities of Notice and Choice, the two elements of the FIPs that are indicative of the industry's own conduct and standard. The limited contribution of the online marketplace seems to demonstrate the ineffectiveness of nonexplicit policy measures that resort to commercial entities in implementing adequate privacy protection. The appearance of low levels of privacy provision in samples of both top-ranked and randomly selected sites also suggests the absence of marketplace benefits across a broad range of the Internet.

As the logistic regression models do not manifest clear benefits from the online marketplace, the inadequate provision of Notice and Choice indicates a tenuous commitment to privacy protections among commercial websites, even those located in sensitive sectors such as family-teen and finance (Turow, 2001). Furthermore, the fact that Internet shopping sites do not score higher in privacy protections suggests that even the baseline domain that the FTC cited for improvement in application of the FIPs in the late 1990s does not necessarily perform better than other domains. The sites with high traffic displayed only a modest difference relative to other sites (Palmer, Bailey, and Faraj, 2000), indicating that marketplace resources are not readily being translated into tangible actions that respond to privacy concerns.<sup>7</sup>

The latest design of Google homepage may illustrate the poor provision in a mega site, reflective of typical conduct in most sites regardless of online domain-context and site characteristics. Google had resisted placing the policy link in its front page until recently (Hansell, 2008). In particular, Google responded to public outcry in the least conspicuous fashion, that is, the placement of the policy link at the bottom of its page in a font size smaller (7.5) than adjacent words (10 and 12). The records are mixed because Google quickly reacted to the criticism regarding the default setting of Buzz (Bamberger & Mulligan, 2011). Yet Google's initial lack of attention indicates that the posited marketplace rationale may be at defunct when it comes to specifics of functional elements of privacy features. No clear operational terms by the FTC in its current Internet policy delineates the condition for such inadequacies in privacy protection.

The non-significant finding regarding the websites with offline business may cast a positive light. At least the current study's finding indicates that the wider scope of business activity is not associated with the level of provision despite its potential interest and ability in personal data collection. Yet a cautious speculation, given the consistent marketplace trend, is that a majority of commercial websites that will newly establish to target U.S. users are likely to avoid a better provision for the fear of drawing attention to or activating privacy concern.

What does the finding of this study suggest regarding the undersupply of privacy protection and the limited contribution by market conditions? In other words, in evaluating the status of the marketplace, is there any opportunity to position Internet privacy as the organizational product of commercial forces? An analogy to the case of television violence (Hamilton, 2001; Neuman, 1991) appears relevant here. The marketplace's emphasis on advertising revenue leads to the undersupply of certain informational genres in favor of a heavy dose of violent programming. This understanding is grounded upon the marketplace incentive that drives media sources to deliver financially viable programming (Neuman, 1991). Just as commercial television stations have limited interest in providing informational programming (Yan & Park, 2009), so a website's effort to provide privacy protection may contradict, not enhance, core business efficiency at the stage of performance assessment.

The fact that the provision of Notice and Choice factors is indifferent to most domain-contexts and site attributes appears to allude to the non-market characteristic of privacy protection. From a policy perspective, putting faith in commercial organizations' voluntary fulfillment of obligations may be a quick and convenient policy recipe, but farfetched from an organizational perspective, because the cost of bearing this additional privacy-protection burden may discourage organizations from delivering such provision. At best, there seems to be insufficient motivation to internalize this non-market imperative in commercial site operators (Croteau & Hoynes, 2001). As such market externality eschews the industry's own standard of Notice and Choice, the remedy may be best sought outside the locus of the marketplace (Neuman, McKnight, & Solomon, 1997; Sholtz, 2001).

## 7. Conclusions

Various arguments against governmental intervention can be presented. Some may argue that efforts to mandate particular functions in site design will inevitably harm the commercial freedom of site operators, regardless of any desirable outcomes. Others may point out that specific yet miniscule government guidelines for usability are of no value, given the wide array of the Internet universe. The burden posed by requiring greater privacy provision may hamper websites' creative uses of home pages, and one could say that, regardless of regulations, ultimate responsibility for protecting one's privacy rests with individual users.

<sup>7</sup> Additional analyses were run to examine the impact of memberships to industry trade organizations: (1) seal assurance programs (TRUSTe and BBBOnline) and (2) p3p (W3C) member. The findings showed no significant difference in either seal assurance or p3p participating sites in explaining the provision of privacy protection, reaffirming the results presented above. The analysis is stricter, because it amounts to a direct test of self-regulatory market forces that grant memberships on industry's own assessment of organizational conduct.

Uncertainty over the fruitfulness of particular policy measures is granted. However, the FTC (albeit, with its limited statutory power) could develop relatively non-intrusive, readily enforceable steps to guide the industry in revamping its current practices.

Some potentially useful actions that the FTC could take include:

1. Requiring websites to carry certain function-specific options at a minimum level.
2. Requiring installation of context-specific measures, especially on sites that potentially target young teenagers or health-concerned users, and
3. Providing the online market with an incentive for compliance by establishing a program of periodic, systematic FTC review with authority to enforce.

These principles combine a type of Internet zoning with incentives for compliance. That is, the sites in different domain-contexts, or zones, could be required to provide different levels of protection in standardized forms, while noncompliance could be clearly identified through periodic reviews by the FTC or other administrative bodies. Scholars (e.g., Bamberger & Mulligan, 2011) found that managerial attention to privacy concerns in fact increased recently, indicating a possible role of the markets in regulating privacy in different ways (e.g., corporate Chief Privacy Officers). Yet, as this study suggests, corporate awareness does not readily translate into specific provisions of privacy protection, and the FTC may be granted the statutory authority to incentivize managerial attention into concrete organizational behavior.

### 7.1. Limitations and future work

Although logistic analysis is a novel and useful way to examine the level of privacy provision in relation to online market determinants, it is not perfect. Future studies should examine panel sites in longitudinal trends in order to better isolate the effect of domain and site attributes. Information on the function of the online marketplace over time is scant. Also, the cross-sectional nature of this study calls for further replication due to the lack of consistent coding approaches among studies conducted since 1998.

As the provision of privacy protection is resistant to variations in domain-context and site attributes, the insufficiency of market incentives may be best viewed as a problem of market externality. In this vein, the merit of the model presented here could be applied to other Internet policy debates. Yet it seems clear that the ineffectiveness of market-based policy, as manifested by the limited relationship between online market conditions and the provision of privacy, is sufficient to justify immediate and appropriate remedial actions.

## Appendix

### Sample websites

#### Top sites

www.yahoo.com  
www.google.com  
www.youtube.com  
www.facebook.com  
www.msn.com  
www.myspace.com  
www.blogger.com  
www.rapidshare.com  
www.hi5.com  
www.ebay.com  
www.aol.com  
www.photobucket.com  
www.wordpress.com  
www.flickr.com  
www.amazon.com  
www.imdb.com  
www.imageshack.us  
www.orkut.com  
www.cnn.com  
www.fastclick.com  
www.fotolog.net  
www.livejournal.com  
www.adobe.com  
www.espn.go.com

www.ask.com  
www.apple.com  
www.about.com  
www.zshare.net  
www.nytimes.com  
www.mediafire.com  
www.4shared.com  
www.mozilla.com  
www.deviantart.com  
www.comcast.net  
www.geocities.com  
www.weather.com  
www.download.com  
www.partypoker.com  
www.metacafe.com  
www.doubleclick.com  
www.gamespot.com  
www.tagged.com  
www.sourceforge.net  
www.imeem.com  
www.cnet.com  
www.ign.com  
www.dell.com  
www.mapquest.com  
www.tinypic.com

www.aim.com  
www.gamefaqs.com  
www.icq.com  
www.alibaba.com  
www.smileycentral.com  
www.files.wordpress.com  
www.hp.com  
www.nbcolympics.com  
www.watch-movies.net  
www.answers.com  
www.reference.com  
www.pogo.com  
www.sendspace.com  
www.mlb.com  
www.digg.com  
www.typepad.com  
www.target.com  
www.walmart.com  
www.linkedin.com  
www.freewebs.com  
www.slide.com  
www.netflix.com  
www.foxsports.com  
www.wwe.com  
www.ning.com

[www.bestbuy.com](http://www.bestbuy.com)  
[www.invisionfree.com](http://www.invisionfree.com)  
[www.mywebsearch.com](http://www.mywebsearch.com)  
[www.reuters.com](http://www.reuters.com)  
[www.wikia.com](http://www.wikia.com)  
[www.symantec.com](http://www.symantec.com)  
[www.worldofwarcraft.com](http://www.worldofwarcraft.com)  
[www.match.com](http://www.match.com)  
[www.fanfiction.net](http://www.fanfiction.net)  
[www.people.com](http://www.people.com)  
[www.information.com](http://www.information.com)  
[www.att.net](http://www.att.net)  
[www.tripod.com](http://www.tripod.com)  
[www.att.com](http://www.att.com)  
[www.ezinearticles.com](http://www.ezinearticles.com)  
[www.foxnews.com](http://www.foxnews.com)  
[www.break.com](http://www.break.com)  
[www.cartoonnetwork.com](http://www.cartoonnetwork.com)  
[www.filefront.com](http://www.filefront.com)  
[www.msplinks.com](http://www.msplinks.com)  
[www.careerbuilder.com](http://www.careerbuilder.com)  
[www.rr.com](http://www.rr.com)  
[www.sweetim.com](http://www.sweetim.com)  
[www.chase.com](http://www.chase.com)  
[www.monster.com](http://www.monster.com)  
[www.brothersoft.com](http://www.brothersoft.com)  
[www.myway.com](http://www.myway.com)  
[www.fimserve.com](http://www.fimserve.com)  
[www.ikea.com](http://www.ikea.com)  
[www.nba.com](http://www.nba.com)  
[www.washingtonpost.com](http://www.washingtonpost.com)  
[www.scribd.com](http://www.scribd.com)  
[www.quizrocket.com](http://www.quizrocket.com)  
[www.freelotto.com](http://www.freelotto.com)  
[www.gametrailers.com](http://www.gametrailers.com)  
[http://www.playlist.com](http://http://www.playlist.com)  
[www.bankofamerica.com](http://www.bankofamerica.com)  
[www.gaiainline.com](http://www.gaiainline.com)  
[www.mtv.com](http://www.mtv.com)  
[http://www.technorati.com](http://http://www.technorati.com)  
[www.wamu.com](http://www.wamu.com)  
[www.verizon.net](http://www.verizon.net)  
[www.webshots.com](http://www.webshots.com)  
[www.wowhead.com](http://www.wowhead.com)  
[www.neopets.com](http://www.neopets.com)  
[www.wowarmory.com](http://www.wowarmory.com)  
[www.addictinggames.com](http://www.addictinggames.com)  
[www.truevo.com](http://www.truevo.com)  
[www.tripadvisor.com](http://www.tripadvisor.com)  
[www.ups.com](http://www.ups.com)  
[www.expedia.com](http://www.expedia.com)  
[www.feedburner.com](http://www.feedburner.com)  
[www.latimes.com](http://www.latimes.com)  
[www.newgrounds.com](http://www.newgrounds.com)  
[www.tv.com](http://www.tv.com)  
[www.real.com](http://www.real.com)  
[www.thottbot.com](http://www.thottbot.com)  
[www.forbes.com](http://www.forbes.com)  
[www.y8.com](http://www.y8.com)  
[www.univision.com](http://www.univision.com)  
[www.crunchyroll.com](http://www.crunchyroll.com)

[www.justin.tv](http://www.justin.tv)  
[www.wachovia.com](http://www.wachovia.com)  
[www.ibm.com](http://www.ibm.com)  
[www.verizonwireless.com](http://www.verizonwireless.com)  
[www.yimg.com](http://www.yimg.com)  
[www.circuitcity.com](http://www.circuitcity.com)  
[www.thefreedictionary.com](http://www.thefreedictionary.com)  
[www.newegg.com](http://www.newegg.com)  
[www.playstation.com](http://www.playstation.com)  
[www.winamp.com](http://www.winamp.com)  
[www.wordreference.com](http://www.wordreference.com)  
[www.wsj.com](http://www.wsj.com)  
[www.plentyoffish.com](http://www.plentyoffish.com)

#### *Random sites*

[www.ameriprise.com](http://www.ameriprise.com)  
[www.alltel.com](http://www.alltel.com)  
[barbie.everythinggirl.com](http://barbie.everythinggirl.com)  
[www.bizrate.com](http://www.bizrate.com)  
[www.imagestation.com](http://www.imagestation.com)  
[www.rentclicks.com](http://www.rentclicks.com)  
[www.victoriasscret.com](http://www.victoriasscret.com)  
[www.troybilt.com](http://www.troybilt.com)  
[www.wxyt.com](http://www.wxyt.com)  
[www.animationfactory.com](http://www.animationfactory.com)  
[www.cooks.com](http://www.cooks.com)  
[www.shoplet.com](http://www.shoplet.com)  
[www.sandals.com](http://www.sandals.com)  
[www.nike.com](http://www.nike.com)  
[www.webmd.com](http://www.webmd.com)  
[www.emedicinehealth.com](http://www.emedicinehealth.com)  
[www.biblio.com](http://www.biblio.com)  
[houston.backpage.com](http://houston.backpage.com)  
[www.letssingit.com](http://www.letssingit.com)  
[www.saroyanzils.com](http://www.saroyanzils.com)  
[www.mondotimes.com](http://www.mondotimes.com)  
[www.morfurniture.com](http://www.morfurniture.com)  
[www.aaasouth.com](http://www.aaasouth.com)  
[www.sublet.com](http://www.sublet.com)  
[www.mercola.com](http://www.mercola.com)  
[www.babyhomepages.net](http://www.babyhomepages.net)  
[www.eteamz.com](http://www.eteamz.com)  
[www.musicarts.com](http://www.musicarts.com)  
[www.drugstore.com](http://www.drugstore.com)  
[www.printfree.com](http://www.printfree.com)  
[www.backpage.com](http://www.backpage.com)  
[www.ajc.com](http://www.ajc.com)  
[www.skinstore.com](http://www.skinstore.com)  
[www.koolprint.com](http://www.koolprint.com)  
[www.bandlu.com](http://www.bandlu.com)  
[www.frysfood.com](http://www.frysfood.com)  
[www.kleinfeldbridal.com](http://www.kleinfeldbridal.com)  
[www.borders.com](http://www.borders.com)  
[www.orientaltrading.com](http://www.orientaltrading.com)  
[www.treehugger.com](http://www.treehugger.com)  
[parenting.ivillage.com](http://parenting.ivillage.com)  
[www.bluemountain.com](http://www.bluemountain.com)  
[romance.virtualpune.com](http://romance.virtualpune.com)  
[www.honda.com](http://www.honda.com)  
[www.aftercollege.com](http://www.aftercollege.com)  
[www.mostchoice.com](http://www.mostchoice.com)

[news.tradingcharts.com](http://news.tradingcharts.com)  
[www.radisson.com](http://www.radisson.com)  
[www.nscorp.com](http://www.nscorp.com)  
[www.active.com](http://www.active.com)  
[www.bradpaisley.com](http://www.bradpaisley.com)  
[www.allonlinecoupons.com](http://www.allonlinecoupons.com)  
[www.partypop.com](http://www.partypop.com)  
[clayonline.sparkart.com](http://clayonline.sparkart.com)  
[www.floridasmart.com](http://www.floridasmart.com)  
[www.commerceonline.com](http://www.commerceonline.com)  
[www.rottentomatoes.com](http://www.rottentomatoes.com)  
[classifieds.timesdispatch.com](http://classifieds.timesdispatch.com)  
[www.discovercard.com](http://www.discovercard.com)  
[www.celebritywonder.com](http://www.celebritywonder.com)  
[www.newgrounds.com](http://www.newgrounds.com)  
[www.theholidayspot.com](http://www.theholidayspot.com)  
[www.popularmechanics.com](http://www.popularmechanics.com)  
[www.unexplained-mysteries.com](http://www.unexplained-mysteries.com)  
[www.yellow.com](http://www.yellow.com)  
[www.go-cartsrus.com](http://www.go-cartsrus.com)  
[www.wchstv.com](http://www.wchstv.com)  
[www.primeoutlets.com](http://www.primeoutlets.com)  
[www.securityarms.com](http://www.securityarms.com)  
[www.travelpost.com](http://www.travelpost.com)  
[www.nothingnagle.com](http://www.nothingnagle.com)  
[www.fandango.com](http://www.fandango.com)  
[www.canon.com](http://www.canon.com)  
[www.legacy.com](http://www.legacy.com)  
[www.abercrombie.com](http://www.abercrombie.com)  
[www.pinkmonkey.com](http://www.pinkmonkey.com)  
[www.coasttocoasttickets.com](http://www.coasttocoasttickets.com)  
[www.topix.net](http://www.topix.net)  
[www.topix.net](http://www.topix.net)  
[www.womencelebs.com](http://www.womencelebs.com)  
[www.whowhere.com](http://www.whowhere.com)  
[www.city-data.com](http://www.city-data.com)  
[www.mrfreefree.com](http://www.mrfreefree.com)  
[www.tenant.net](http://www.tenant.net)  
[www.alamo.com](http://www.alamo.com)  
[www.alamo.com](http://www.alamo.com)  
[www.jetnet.aa.com/](http://www.jetnet.aa.com/)  
[www.guitarnoise.com](http://www.guitarnoise.com)  
[www.fastaccess.com](http://www.fastaccess.com)  
[www.longhornsteakhouse.com](http://www.longhornsteakhouse.com)  
[www.urbandictionary.com](http://www.urbandictionary.com)  
[www.mercurymarine.com](http://www.mercurymarine.com)  
[www.ibsnetaccess.com/](http://www.ibsnetaccess.com/)  
[www.freewillastrology.com](http://www.freewillastrology.com)  
[www.unique-vintage.com](http://www.unique-vintage.com)  
[www.automart.com](http://www.automart.com)  
[www.mathplayground.com](http://www.mathplayground.com)  
[www.mtbr.com](http://www.mtbr.com)  
[www.americanbridal.com](http://www.americanbridal.com)  
[find.yuku.com](http://find.yuku.com)  
[www.collegehoopsnet.com](http://www.collegehoopsnet.com)  
[www.beau-coup.com](http://www.beau-coup.com)  
[www.goodysonline.com](http://www.goodysonline.com)  
[www.cruisecheap.com](http://www.cruisecheap.com)  
[www.classiccloseouts.com](http://www.classiccloseouts.com)  
[www.mothernature.com](http://www.mothernature.com)  
[www.homeenvy.com](http://www.homeenvy.com)

[www.zap2it.com](http://www.zap2it.com)  
[www.godlikeproductions.com](http://www.godlikeproductions.com)  
[www.nintendo.com](http://www.nintendo.com)  
[chicagosports.chicagotribune.com](http://chicagosports.chicagotribune.com)  
[www.pregnancyguideonline.com](http://www.pregnancyguideonline.com)  
[www.extrasformovies.com](http://www.extrasformovies.com)  
[www.paypal.com](http://www.paypal.com)  
[www.audiovox.com](http://www.audiovox.com)  
[www.arbonne.com](http://www.arbonne.com)  
[www.homeexpo.com](http://www.homeexpo.com)  
[www.nick.com](http://www.nick.com)  
[www.naturalhealers.com](http://www.naturalhealers.com)  
[www.modernpostcard.com](http://www.modernpostcard.com)  
[www.kltv.com](http://www.kltv.com)  
[www.achievacu.com/](http://www.achievacu.com/)  
[www.topsecretrecipes.com](http://www.topsecretrecipes.com)  
[www.coolmath4kids.com](http://www.coolmath4kids.com)  
[www.pimall.com](http://www.pimall.com)  
[www.sdcitybeat.com](http://www.sdcitybeat.com)  
[www.southwest.com](http://www.southwest.com)  
[hockeysfuture.com](http://hockeysfuture.com)  
[www.majorgeeks.com](http://www.majorgeeks.com)  
[www.twcol.com](http://www.twcol.com)  
[homeharvest.com](http://homeharvest.com)  
[static.reunion.com](http://static.reunion.com)  
[nc.essortment.com](http://nc.essortment.com)  
[www.owners.com](http://www.owners.com)  
[www.snopes.com](http://www.snopes.com)  
[www.azcentral.com](http://www.azcentral.com)  
[www.abcto4me.com](http://www.abcto4me.com)  
[reference.allrefer.com](http://reference.allrefer.com)  
[www.fool.com](http://www.fool.com)  
[www.continental.com](http://www.continental.com)  
[www.planetware.com](http://www.planetware.com)  
[www.hollywoodvideo.com](http://www.hollywoodvideo.com)  
[www.libertymutual.com](http://www.libertymutual.com)  
[seattletimes.nwsources.com](http://seattletimes.nwsources.com)  
[www.curves.com](http://www.curves.com)  
[www.healthsquare.com](http://www.healthsquare.com)  
[www.harrisburgpahotels.worldweb.com](http://www.harrisburgpahotels.worldweb.com)  
[www.familyfirst.com](http://www.familyfirst.com)  
[www.arcadepod.com](http://www.arcadepod.com)  
[www.123helpme.com](http://www.123helpme.com)  
[entertainment.howstuffworks.com](http://entertainment.howstuffworks.com)  
[www.answerbag.com](http://www.answerbag.com)  
[www.rapidswaterpark.com](http://www.rapidswaterpark.com)  
[www.fetchbook.info](http://www.fetchbook.info)  
[www.lyricsdepot.com](http://www.lyricsdepot.com)  
[www.linspire.com](http://www.linspire.com)  
[www.vandykes.com](http://www.vandykes.com)  
[www.freewebs.com](http://www.freewebs.com)  
[www.americanmusical.com](http://www.americanmusical.com)  
[www.inboxdollars.com](http://www.inboxdollars.com)  
[www.shopzilla.com](http://www.shopzilla.com)  
[www.ediets.com](http://www.ediets.com)  
[www.teagames.com](http://www.teagames.com)  
[www.hilton.com](http://www.hilton.com)  
[myspace.nuclearcentury.com](http://myspace.nuclearcentury.com)  
[www.selfhealingexpressions.com](http://www.selfhealingexpressions.com)  
[www.playonline.com](http://www.playonline.com)  
[www.mizuno.com](http://www.mizuno.com)  
[www.rxlist.com](http://www.rxlist.com)  
[www.suite101.com](http://www.suite101.com)  
[www.realestate.com](http://www.realestate.com)  
[www.harmonhomes.com](http://www.harmonhomes.com)  
[www.crwflags.com](http://www.crwflags.com)  
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