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Abstract

Electronic commerce has had a considerable development in the world; it always implies information exchange, -being it frequently personal information-, between Internet users and site owners. Providing such data to a website, when usually users don't even know where the company is located, has brought concerns about the use of private information by online business. Some countries have started to pass laws and guidelines regarding the use of private information gathered online, and also non government associations have started to certificate websites in the use and management of personal data. This study explores and analyzes the content of 120 privacy statements from online companies established in Mexico to address all privacy dimensions that seems to be important in online environment and to evaluate characteristics and differences in the use of the personal identifiable information among them. When possible, a comparison is made between some of the results of this research for companies operating in Mexico, and the findings made by Pollach (2006) for companies operating in U.S.A. Finally some possible future work is described and some conclusions are made.

1.   Introduction

The worldwide growing popularity of electronic commerce has developed great opportunities for business to maintain and expand their customer base at a global level. As for business-to-business e-commerce (B2B), the United States Census Bureau reports that in 2002 ecommerce represented 16.28 per cent of all commercial transactions among enterprises, and that B2B amounted to 92.7 per cent of all e-commerce in the United States, while B2C e-commerce reached 3,400 billions of US dollars, in USA alone in

2003[1]. The number of potential global buyers is increasing dramatically all over the world[2] . In order to be more efficient when it comes to service to their customers and to achieve better market forecasting, businesses need to better know their customer and build relationship markets. This task is eased by the opportunities that the new Information Technologies brings to interact with the potential and actual online buyers. Ironically, the same information practices that provide value to companies rise privacy concerns among Internet users (Culnan & Armstrong, 1999).

The use of Web sites implies exchanging information between Internet users and site owners, whether in an explicit or implicit way. This leads to an increasing level of concern of the Internet users about their privacy. Main concerns have to do with the kind of information that Web sites collect, the way it is collected and the uses that business gives to the information collected. Several researchers have documented this issue since long time ago (for example, Mason *et al,* 1986; Pitkow and Kehoe, 1997; Wang and Wang, 1998; Culnan & Armstrong, 1999; Udo, 2001; Jupiter Media Matrix, 2002). Privacy concerns are magnified and more valued when online transactions are involved.. Privacy concerns for B2C e-commerce are evident because of the direct involvement of customers (Liu & Arnett, 2002).

In this sense multiple studies have been made to verify the use of privacy policies by the online companies on the part of the companies (Pollach, 2006; Robb and Rogerson, 2004; Desai *et al.*, 2003); the consumer concerns related to online privacy (Wang *et al.,* 1998; Mizayaki and Fernandez, 2000); their relationship with the consumer's confidence to make online transactions (Ranganathan and Ganapathy, 2002; Timmers, 2000), the ethical dimensions of online privacy (Stead and Gilbert, 2001; Maury and Kleiner, 2002); the relation of privacy and trust in online environments (Koehn, 2003) and their use in different countries (Liu and Arnett, 2002; Jonson-Page and Scott, 2001).

There are several works that addresses privacy issues from different points of view, some of them researching on the privacy policies that business implement in their online sites, some others trying to find how it reflects in the confidence of the Internet users[3]. But none of them have focused in how these issues are addressed by the online business in Mexico.

This article is divided into five sections. The first section describes the theoretical grounding of privacy, the second reviews the context of the privacy issues at the beginning of the third millennium, focusing on the legal aspects of the privacy at an international level and at national level on some of the most important countries in the world as well as in Mexico and the third focuses on the methodology of the research project. The fourth section present the findings of the research analysis made to 120 Web sites of Mexican Companies regarding their privacy policies, and ultimately, the fifth section discusses the implications of the findings for practice and explores avenues for future research.

2.   Theoretical Issues of Privacy

The term privacy[4] is usually described as "the right to be let alone", and is related to solicitude, secrecy, and autonomy (Wang, *et al.*, 1998). While data privacy is defined or

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[1] See United States Census Bureau (2004)
[2] Internet used reached 675 million people in 2003, according to UNCTAD (2004), pp. 30
[3] There is a more detailed analysis of this subject in the next section of the paper

[4] The legal concept of privacy varies depending on the legal system of each country (Common Law Based Systems or Roman Law Based Systems. Nevertheless, there are three fundamental rights for the protection of the individuals that must be considered under both types of legal systems. First, the right to enjoy a free private life, without undesired interruptions or intrusions; second, the right to communicate freely with any

understood as people's right to control both information about themselves and how others use it (Mason *et al.*, 1995; Shaw, 2003).

Some companies collect marketing information on consumers' Internet habits without their knowledge or consent (Desai, *et al.*, 2003). Pollach (2006) mentioned the primary tool for data collection on the WWW is cookie files[5] and another is Web beacons[6]. Unlike cookies, Web beacons cannot be disabled or filtered and, thus, represent an even greater threat to privacy than cookies (Kay, 2004; Harding *et al.*, 2001).

Uncertainty Reduction Theory[7] is well suited as a framework for examining the usefulness of privacy policies for reducing Internet users' uncertainties about data privacy policies to manage risk (Milne & Culnan, 2004; Pollach, 2006). This theory establishes in initial interactions, both people seek information about each other, in this case companies and Internet users (See Figure 1).
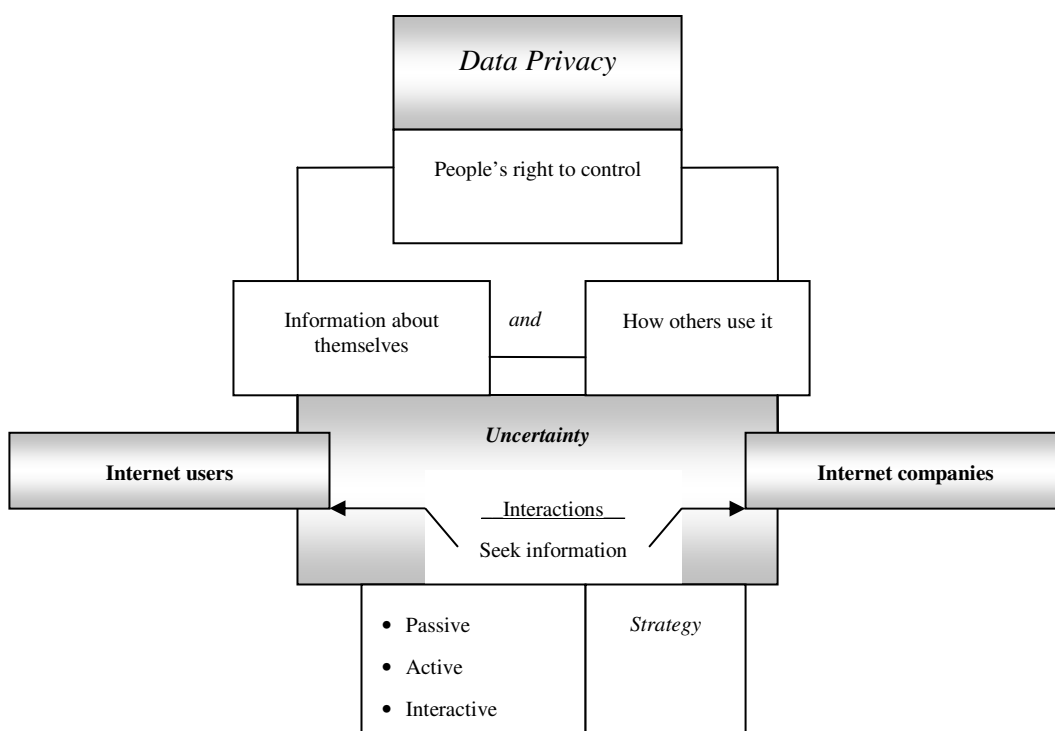
Figure 1: Uncertainty between Internet users and Internet companies

Berger and Bradac (1982) state that people use three different strategies to gather social information about others: passive, active and interactive. The first imply observation from

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person without the fear to be watched; and third, the right to control the access to our own personal information.

[5] Once Web sites place cookie files on user's PCs, every time a user connects to the site, the browser checks the cookies on the hard drive and uploads the cookie, if it matches the site's URL.

[6] It also referred to as Web bugs, pixel tags or clear GIFs. The Web bugs are used to track user' site activities, to monitor how often an e-mail is read and forwarded, and to collect the Internet Protocol (IP) address of the e-mail recipient.

[7] Developed by Berger and Calabrese (1975). It based first on, humans have an innate need to reduced uncertainty about themselves and others and second, they prefer predictable relationships with others.

afar, the second acquisition of information from third parties, and the last one direct contact.

Thus, Pollach (2006) suggests companies use *passive strategy* through cookies and Web beacons to collect data about users, *active strategy* when acquire information from third parties like credit agencies or *interactive strategy* to ask users for personal data when they register with the site or complete surveys and feedback forms.

Users may trust companies when these ones disclose their data handling practices in the form of privacy policies, because it reduce online users' uncertainties about data privacy. Once a relationship of trust has been established between users and companies, users may be more willing to divulge personal information, which may lead to even more customized Web sites, and eventually customer loyalty (Pollach, 2006).
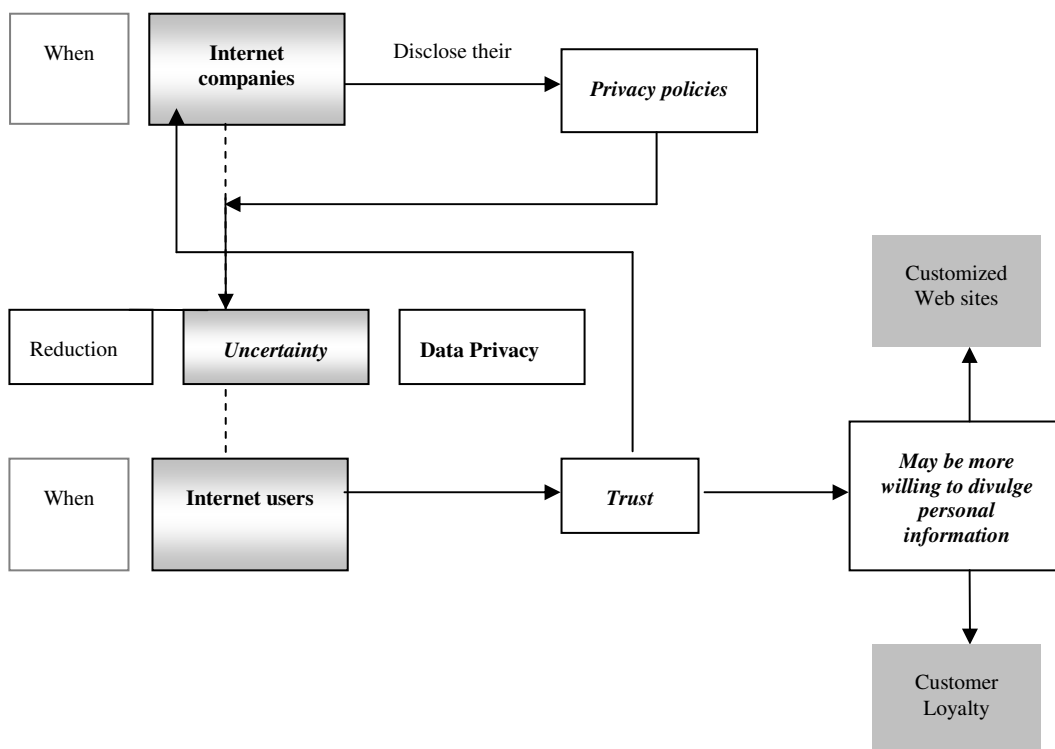
Figure 2: Usefulness of privacy policies for reducing Internet users' uncertainties

2.1   Privacy Concerns among Online Customers

In 1998 Wang, *et al.* established seven different privacy concerns related with act at improper way. To access consumer's private computer, monitor consumer's Internet activities, collect data, analyze data, transfer data, and storage data without notice to or acknowledge from the consumer, and finally, to transmit information to potential Internet consumers without their acknowledge or permission.

Miyazaki and Fernandez (2000) established users' information privacy concerns relate primarily to data collection, improper access to personal data, unauthorized secondary use of personal data, data sharing and unsolicited marketing communications. On the other hand, online users are rather unconcerned about the collection of aggregate information but fear that companies misuse personally identifying information and share it with third parties (Han & Maclaurin, 2002).

In these sense, Liu and Arnett (2002) pointed out that although business and customers can benefit substantially from the B2B applications, there are strong concerns about personal information disclosures to the third parties and external secondary uses of customer personal information without customer consent.

Liu & Arnett (2002, pp.124) conclude: "from the business side, e-commerce survival is achieved, by obtaining, analyzing, and using customer data to identify and pursue marketing activities. But a customer wants some assurance that personal data will only be used in ways that are known by and approved by the customer".

2.2   Internet Privacy Policies

Many organizations have been worried about damage to trade if consumers do not feel they could place sufficient trust in online transactions (Timmers, 2000). In this sense, Pollach (2006, P.28) suggest "privacy policies are an important trust-building vehicle in initial interactions between companies and users, therefore, improving their quality is a worthwhile effort that may result in stable relationships". In addition, Ranganathan and Ganapathy (2002) found that Web sites characteristics that conveyed security and privacy were the most reliable indicators of purchase intent.

Desai *et al.* (2003a) researched about e-commerce policies and found that privacy was consistently the most important policy issue. According with U.S. surveys[8] companies seem to prefer self-regulation to legislation and have begun to disclosure their privacy policies voluntarily before they were required to do so by law (Pollach, 2006).

Its important to mention the findings of Johnson-Page and Scott (2001) whose concluded on their investigation that data privacy policies are more commonly found on B2C Web sites in countries where: consumers have greater access to and experience of using the Web, and there is an established market economy with clear business law.

2.3   Main Features and Dimensions of Privacy

The Federal Trade Commission (U.S.A.) suggested in 2000 four dimensions of privacy online: *notice* prior collection of data, *choice* to share or use information, *access* to data collected, and keeping data *secure*. The main features of the privacy policies include: information use, collection, disclosure, contact, opt-out/choice, cookies and access/correction data (Liu & Arnett, 2002). Figure 3 provides the main contents of privacy policies.

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[8] Federal Trade Commission Survey (1998 and 2000), and Georgetown Internet Privacy Policy Survey by Culnan (1999). The results showed how increased the percentage of companies that disclosing their privacy policies from 14% in 1998 to 88% in 2000.

Content	**Description**
Use	How does the site use the collected personal and non-personal information?
Collection	What information does the site collect from the customer and/or how it is collected?
Disclosure	Whether to share customer information with the third parties and/or under what circumstances to disclose customer data.
Contact	Provide a contact method to specifically address customer privacy concerns.
Opt-out choice	Offer customer choices whether to accept the internal and/or external secondary uses of their information.
Cookie	Detailed explanation of how the site uses the cookie technique.
Access/Correction	Allow customer to access their personal information so that they can update data and/or fix errors.

Source: Based on Liu & Arnett (2002, pp.122)

Figure 3: The main features of online privacy policy

Milne and Culnan's (2004) found that Internet users read privacy policies to manage risk but are more likely to read them if they perceive them as comprehensible, in this case, they are also more likely to trust them. However, Liu & Arnett (2002) found comprehensive privacy policies to address all privacy dimensions (*notice*, *choice*, *access* and *security*) are less common.

2.4   A taxonomy for Privacy Concerns

Wang and Wang (1998) stated that that there exists a wide range of Internet marketing activities that have negative effects on the Internet consumer's individual privacy and can be grouped into five categories:

- Privacy concerns related to activities of junk email marketing organizations
- The activities of Web-based advertisements that track the user's usage history and preferences through cookies and other internet gadgets.
- Privacy concerns over malicious programs that can be constructed through security holes in many Internet tools.
- Privacy concerns regarding the use and transfer of private information, and,
- Concerns over distribution, often for financial gains, of private information, often for purposes other than the purpose for which it was collected.

They propose a taxonomy of consumer privacy concerns based on improper acquisition, improper use and improper storage of information as well as privacy invasion as shown in Figure 4. It describes the relationships between the Internet marketing activities (rows) and the privacy concerns (columns).

	Improper acquisition			Improper use		Privacy invasion	Improper storage
	Improper access	Improper collection	Improper monitoring	Improper analysis	Improper transfer	Unwanted solicitation	
Direct mailing				Probable		Explicit	
Preference tracking	Explicit	Explicit	Explicit				
Unwanted eavesdrop	Probable	Explicit	Explicit				
No opting-out				Explicit			Probable
Third-party distribution				Explicit	Explicit		Probable

Source: Wang and Wang (1998, pp. 65)

Figure 4: A taxonomy of privacy concerns

2.5   Privacy Seals

In order to ease customers' concerns about the online privacy, companies from different parts of the globe have begun to issue privacy policies or statements on their Web sites. Several seal programs such as TRUSTe, BBOnLine (Better Business Bureau Online Seal) and ESRB (Entertainment Software Rating Board Seal) have also been developed. Privacy seals offer a readily visible and easy way to assure customers that the business they are dealing with respectful of individual privacy on the Internet (Liu & Arnett, 2002).

3.   Context of Privacy in the e-Commerce

In order to mitigate the uncertainty about the information gathered online and the use that electronic business gives to it; and also to generate confidence in online surfing and browsing, options have settled down that protect the privacy of Internet users. Thru the years many avenues have been explored for this, going from government guiding to business self regulation.

3.1   International Legal Frame

However, at an international scope, it is possible to emphasize the work of the Organization for Economic Cooperation and Development (OECD). Even though the guides that the OECD emits are not mandatory for many countries in the realm of the public international right, these are generally accepted principles as recommendations of voluntary character commonly adopted by governments, companies, organizations and individual users of countries members of the OECD,

The guidelines of the OECD[9] who regulate the Protection of Privacy and the transnational flows of Personal data of September 23, 1980, contain eight complementary principles of national application and four of international application that are considered the minimum standards to follow for the obtaining, the processing and the free transnational flow of data for the government and private sectors. It can be noted that these privacy guidelines show principles and specific rules upon which governments can build effective regulatory policies and can be used as foundations to provide a more standardized legislation at an international level. It would be useful to avoid possible conflicts derived from transnational information flows regarding personal information.

3.2   European Union's Legal Frame

Many countries, as for example some states members of the European Union have considered the issues of privacy and protection of personal data like high-priority issues in their legislative agenda[10].

The council directive of the European Parliament 95/46 issued in October 24, 1995 relative to the protection of the physical people in which it concerns to the personal data processing and the free circulation of these data (better known as Directive on Privacy and Protection of Data) took effect on the 25 of October of 1998 and it's objective is to provide a general frame of reference for the countries members. This directive settles down very strict rules for the protection of the rights and guarantees of freedom of the European citizens and the protection of their right to privacy in relation to the obtaining and processing of personal data.

One of the dispositions contained in this directive that caused more controversy is the Article 25th, which establishes the prohibition to its states members to transfer personal data and information to third countries that do not provide a sufficient and suitable protection to privacy.

3.3   U.S.A. Legal Frame

However, countries like the United States, although having a quite ample legal frame in the matter of privacy[11], it also has adopted a self-regulation policy that is been to position to a great extent of the private sector, responding satisfactorily to the demands and necessities of its corporations and protecting as far as possible the basic rights of the consumers and the citizens with base in the first amendment of its Constitution[12].

It can be said that the United States has adopted a much more flexible policy on privacy and protection of data than the European Union. Their objective is to protect and tutelary the rights of consumers and the vulnerable population, it is characterized by the adoption of a more liberal scheme for the private sector. The US has trusted their policies of

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[9] These guides are available at: http://www.oecd.org/EN/document/0,,EN-document-29-nodirectorate-no-24-10255-29,00.html

[10] A more detailed information on this subject can be found in:
http://europa.eu.int/scadplus/leg/es/lvb/l24120.htm

[11] As example of it, we can mention the Privacy Act of 1974 whose object is to regulate the obtaining and use of personal information within the public sector, and the Electronic Communication Privacy Act of 1986 that forbids unauthorized people from having access to electronic messages stored by a service provider and grant only limited access to the government.

[12] The first amendment of the Constitution of the United States of America indicates textually: "Amendment I Religious and Political Freedom. Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech, or of the press; or the right of the people peaceably to assemble, and to petition the Government for a redress of grievances".

regulation and privacy to their companies because the government is conscious that these actions and mechanisms foment and reactivate electronic commerce.

3.4   Canada's Legal Frame

Other countries, like Canada for example, have followed a policy of regulation on privacy and protection of data characterized by the adoption of the so called "The Third Way" that is to say, they have tried to adopt a regulatory frame that neither on is not excessively regulated by the government nor either it is freely auto regulated by the companies, but that combines legislation and efficient policies of self-regulation to respond to the individual necessities of their nationals, specifically looking to protect the rights of the citizens and consumers, without reducing the patrimonial interests of the private sector, establishing clear rules and efficient governmental organisms for its monitoring.

3.5   Mexico's Legal Frame

The constitutional frame.   The Article 16 of the Political Constitution of the Mexican United States represents the legal frame of the privacy in Mexico13. The first paragraph of this article consecrates one of the more important individual guarantees: the right that any individual have to not being bothered in his person, family, address, papers or possessions, but by virtue of written order of the competent authority, that founds and motivates the legal cause of the procedure.

The applicable legal frame in B2C e-commerce. The legal frame of the electronic commerce in Mexico is relatively recent[14.] Nevertheless the protection of personal data in the B2C area is already regulated by the "Ley Federal de Protección al Consumidor, FLPC" (Federal Law of Protection to the Consumer, FLPC)[15]. It imposes the obligation to the suppliers to maintain the confidentiality of the information and prohibits to spread it or to transmit it to other suppliers, unless the consumer has authorized it by signing (opt in), or that a requirement of some legal authority exists. It also imposes to the supplier the obligation to maintain the information safe and confidential and to inform to the consumer on the general characteristics of the technical elements available before the celebration of a transaction. Additionally, some dispositions on privacy are contemplated in other legal orderings as the Law for the Press, the Federal Law on Author Rights, the Law of the National Institute of Statistics, Geography and Computer Sciences, and the Federal Penal Code, among others.

4.   Methodology

To test the hypothesis for this research a content analysis was conducted in a systematic manner, starting with the text where the phrase "*privacy statements*" and "*legal notification*" were showed in the main web pages of the reviewed companies. The sites where the phrases or links were not provided were discarded. The hypotheses to be tested are:

   1) *In Mexico whether a site has a privacy policy or not depends on the business category.*

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[13] An updated version of this Constitution is available at: http://constitucion.presidencia.gob.mx/
[14] The first legislation on e-commerce was published on May 29, 2000

[15] An updated version of this Law is available at:
www.profeco.gob.mx/html/juridico/pdf/a_multas_pfc_22dic05.pdf

2) *In Mexico less importance is given to the use and collection of PPI than in the U.S.A*

3) *In Mexico less importance is given to the use of privacy seals than in U.S.A*

4) *In Mexico less importance to the publication of PPI is given than in U.S.A.*

5) *The information collected in Mexico is shared to third parties in a higher ratio than in U.S.A.*

The companies researched are attending the Mexican market, it do not matter if they are from Mexican origin or being a filial from foreign companies with presence in the Mexican market. The companies list was taken from the directory of companies provided online by the Mexican Internet's Association web site[16], (Asociacion Mexicana de Internet as stated in Spanish), or AMIPCI.

It was decided to work with their directory because AMIPCI has been working since 2000 developing studies about e-business in Mexico, and is nowadays consultant to Mexico's government for the developing of standards on Internet concerns in Mexico. It comprises 75 companies added as active members, including some of the government's sites, and the companies listed in its directory are among the most important in the country. The sites showed in the portal are divided four sectors:

a) Infrastructure and telecommunications

b) Professional Services

c) Associations and non-governments' organizations

d) Websites and portals.

Web sites and portals category was chosen in order to perform the research. The "Websites and portals" option is divided in 13 categories:

a. Arts culture and education

b. B2C stores and electronic commerce

c. Real estate and construction companies

d. Entertainment

e. Hardware and software

f. Automobile Industry

g. Communication media

h. Horizontal Portals, directories and search websites

i. Corporative or branded presence

j. Electronic government services

k. Health services and products

l. Financial services and products

m. Tourism services and products

To carry out the study, 120 companies were grabbed, 10 from each category[17]. Automobile Industry was left out at random to let only 12 categories in the study. Further

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[16] http://www.amipci.org.mx/directorio/index.html
[17] The web site address of these can be found in Appendix A

selection of the sites was made through a non-probabilistic way, choosing first by users' judgment the more known brands in Mexico, but without the intention to show if they are commercially successful because they privacy policies implemented. The companies selected were only selected to analyze and to identify points in their privacy policies

A series of questions related with user's privacy were developed, and placed in a survey divided in four parts. The first part was for tag the company in a category according with the directory of AMIPICI. The last three areas of the survey were to analyze the privacy statements from the selected companies, so the study had the following structure:

a) Type of company

b) Policy characteristics

c) Questions about how they collect the private information,

d) Questions about if the companies share the collected data.

To analyze the sample and compare the data, a survey was developed (See Appendix B), based on the questionnaire elaborated by Irene Pollach (Pollach 2006) and following the structure for data coding developed by McRobb and Rogerson (McRobb and Rogerson 2004). A chi-square method with at a level of significance $\alpha = 0.01$, for the difference in c proportions was run to test the first hypothesis under investigation, and the results were compared with the ones obtained by Pollach, in order to establish if the differences were enough to reject or to accept the stated hypothesis using a chi-square statistic method for these purposes. This statistic method was chose because it allows evaluating hypothesis about the relationship between two categorical variables.

As was stated before, those companies without any Private Policies were discarded for this study, and only used to have a symmetrical proportion among the sectors that has it. Discourse analysis was used to classified if the policies were wrote using a formal or informal language. The number of words for each company's privacy statements was calculated using the word count option in the WordPerfect, to provide a range between minimum and maximum quantity of words, and an average. The answers for the survey were codified as nominal variables, because not hierarchies were given to them, only it was necessary to know if the answer were in one category or another and to analyzed them using contend analysis. This analysis was made because the intention of the research was to find if the companies' policies declared if they were using tools such as cookies or web beacons, as examples. The date for the actualization of the privacy policies were used only to know if they are actualized in a periodic fashion or not, but no last update was registered for the research.

The element used as independent variable was: "sector", to identify if some categories of companies are more prone to establish privacy policies. To be measure the variable "sector" was classified as ordinal. Also same analysis was performed for "Category of the company" section.

To test second to fifth hypothesis a Z test of hypothesis for the proportions was carried out, with a level of significance $\alpha = 0.01$.

5. Results of the Content Analysis

Results of the web sites analysis content are analyzed below under the main themes.

5.1   General Privacy Policy Characteristics

How important privacy policy is perceived by the Mexican online companies was measured by the proportion of the Web sites having a privacy policy in the sample. 59 of the 120 analyzed web sites were found to have a privacy policy, for an average of 49.2%.

The prominence of the privacy policy is used as an important indicator of how seriously the organization views the policy McRobb and Roberson (2004). Prominence was measured by where in the page the link to the privacy policy is located, how many clicks were needed to access the document, how many words a privacy policy consist of, and the format used to write the policy. On an average a privacy policy consists of 1516 words, ranging from 77 to a maximum of 6966 for a standard deviation of 1351. 81% of the privacy policies are accessible with just one click on a link in the Web site's home page. 37 sites (63% of the pages) use a formal but clear language, 8 sites use an informal language, while 14 of them use a legal-dense format. Almost all of them provide some form of contact information. Figure 5 gives an overview of additional characteristics of these documents, including place of the link to the privacy policy in the home page, and contact information.

Most of the companies (81.4%) do not display or refer to any private seal; and the balance has one seal. The seals displayed include TRUSTe (n=4), BBB Online (n=4), RSAC (n=1), RSC (n=1) while one company uses a regional (Mexican) seal.

Place where the privacy policy is located				Clicks to arrive to privacy policy from homepage				Contact information		
	Frequency	%			Frequency	%			Frequency	%
Bottom	51	86.4		1	48	81.4		Postal address	45	76.3
Top	2	3.4		2	10	16.9		Phone number		
2nd page	2	3.4		3	1	1.7		E-mail address or e-mail form	41	69.5
Middle	4	6.8						None	13	22.0

Figure 5: General document characteristics (n=59)

5.2   Data Collection

Most of the companies (86.4%) collect personally identifiable information (PII), while only 68% of those that collects PII provide option to opt out of collecting It. Figure 6 shows that 61% of the companies' state explicitly to collect aggregate information and none of them provide opt out option for it, while only 6% use Sweepstakes and contest to gather costumer data. Seven companies mention to use other sources to obtain user information.

A total of 52 (88.1%) companies mention to use cookies but only 24 of them draw attention to the fact that the users may disable them. In addition to cookies, 7 companies (11.9%) mention to use Web beacons 39 (66.1%) of them admits to collect customer data through storing e-mail addresses from customer inquiries. Third parties collect aggregate information in 35.7% of the analyzed sites having a privacy policy, while 5.1% of them

collects PII and 3.4% collects both types of information. 52.7% of the privacy policies do not mention whether they do it or not.

User control over PII (n=59)	
Can users view, update, and/or delete their personal data profiles?	40.7%
Use of cookies to collect aggregate data (n=59)	88.1%
Other sources of Customer data (n=59)	
Web beacons	11.9%
Online surveys	43.0%
Sweepstakes	10.2%
Third parties	5.0%
Customer inquiries	66.1%
Third party data collection (n=59)	
Aggregate information	35.7%
PII	5.1%
Aggregate and PII	3.4%
Type not specified	8.5%
Not mentioned	52.7%
Collection method	
Cookies or web beacons	8.5%
No answer	91.5%

Figure 6: Collection of user data (n=59)

5.3   Data Sharing

A slight majority (50.8%) of the companies point out that they share data with affiliates (aggregate and PII), while 8.5% of the total share aggregate information and 3.4% PII with third parties. As Figure 7 shows, only 8.5% of the companies specify that third parties have to sign a privacy agreement with the company, while 91.5% do not specifies whether these parties have to sign a privacy agreement. The percentage of companies providing no information is alarming. Another code in the analysis addressed the selling of customer data. Only 11 companies (18.3%) of the companies with a privacy policy states clearly that they do not sell customer data to third parties, and no one admits to selling customer data. Only 12 companies (20.3%) of the companies say explicitly that they do not share e-mail addresses. 13.6% of the companies clearly states to share data obtained in sweepstakes, surveys and contests.

	Aggregate Information			Personal Information	
	Affiliates	**Third parties**		**Affiliates**	**Third parties**
Yes	50.8	8.5		50.8	3.4
No	-	-		-	-
If authorized	5.1	-		5.1	-
No answer	44.1	91.5		44.1	96.6
Third party privacy agreement (n=59)					
Yes					8.5%
No					91.5%
Users opt out from third party data collection					
Yes					20.4%|
No					78.6%
(n=59)					

Figure 7: Data sharing practices

5.4 Further Comparisons and Analysis

A chi-square method for the difference in c proportions was run to test the first hypothesis under investigation. It was found, at a level of significance, $\alpha = 0.01$, that the fact that a web site has or not a privacy policy depends on the business type. Horizontal Portals, directories and search websites; Tourism services and products; and Hardware and software sites, having the largest proportion of privacy policies as opposed to Electronic government services; Health services and products and B2C stores and electronic commerce sites being the ones with the lower proportions.

A Z test of hypothesis for the proportions was carried out to test second to fifth hypothesis, at the selected level of significance ($\alpha = 0.01$). From these analysis we can not reject any one of the null hypothesis concluding that: In Mexico less importance is given to the use and collection of PPI than in the U.S.A.; in Mexico less importance is given to the use of privacy seals than in U.S.A.; in Mexico less importance to the publication of PPI is given than in U.S.A.; and, the information collected in Mexico is shared to third parties in a higher ratio than in U.S.A.

6. Discussions and Implications

Many Mexican companies carry out data handling practices that do not respect user privacy. It seems also that they share a lot of sensible information even with third parties not subject with the company's privacy policies. Many of the sites do not even provide any information privacy related thus leaving readers in the unknown whether they can be worried-free or not. It is important to notice that no effort were made in this research to

prove if the companies really do what they say, so results must be maintained as indicative.

Comparative results have one important implication for managerial practice as it shows that privacy issues seem to be cultural issues: they have to do with tradition, legal rights and other cultural related beliefs. Further research is needed to address this subject in a more detailed manner.

6.1 Limitation of Findings

As stated before, the sample is not representative of the Mexican online market. From our own experience and the one from other researchers ((MCRobb and Rogerson, 2004), the best way to embrace this problem is using a qualitative approach due the complexity of the issues.

6.2 Avenues for Future Research

It should be obvious by now that further research is needed to understand the impact of culture on the online privacy issues. Being the Internet as ubiquitous as it is, additional research is needed to determine how privacy statements of international companies are designed, and what is the real impact of this in the acceptance of their multicultural clientele.

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Appendix A

List of Web Sites by Category

CULTURE AND EDUCATION	B2C & E-TAILING	BUILDING AND CONSTRUCTION
www.itesm.mx www.universia.net.mx www.antecamara.com.mx www.cetys.mx www.ecultura.gob.mx www.cucea.udg.mx www.itam.mx www.cultura.iteso.mx www.unides.edu.mx www.uaa.edu.mx	www.mercadolibre.com.mx www.buzonelectronico.com www.elpalaciodehierro.com.mx www.estafeta.com www.liverpool.com.mx www.toditoshop.com www.elsotano.com www.sonystyle.com.mx www.famsa.com www.exposicionesvirtuales.com	www.canoo.com.mx www.casasgeo.com www.cimainmuebles.com www.coesaingenieria.com www.gacersteel.com www.cemexmexico.com www.renovamosplafones.com www.mabasa.com.mx www.construblock.com.mx www.dieboqui.com
ENTERTAINMENT	**HARDWARE & SOFTWARE**	**MEDIA**
www.esmas.com www.burundis.com www.camkungfu.com www.cinemaslumiere.com www.cartoonnetwork.com.mx www.aescena.com www.animadores.com.mx www.antreando.com www.mmenlinea.net www.radiopirata.com	www.symantec.com.mx www.verisign.com www.acer.com.mx www.apple.com.mx www.compaq.com.mx www.multisistemas.com.mx www.totaltech.com.mx www.softtek.com.mx www.lexmark.com www.ibm.com.mx	www.eluniversal.com.mx www.oncetv.ipn.mx www.canal22.org.mx www.tvazteca.com www.milenio.com www.radioformula.com.mx www.unomasuno.com.mx www.soyentrepreneur.com www.elfinanciero.com.mx www.heraldo.com.mx
SEARCH ENGINES	**CORPORATE SITES**	**ELECTRONIC GOVERNMENT SERVICES**
www.seccionamarilla.com.mx www.yahoo.com.mx www.aol.com.mx www.terra.com.mx http://www.metabuscador.com.mx/ www.guiacomercial.com.mx/ www.boletinturistico.com www.segundamano.com.mx www.mexico.com www.agrointernet.com	www.lancome.com.mx www.coppel.com www.kimberly-clark.com.mx www.samsung.com.mx http://wwwmx.kodak.com.mc www.gnp.com.mx www.minerareynadelpacifico.com www.tssinternacional.com www.wal-mart.com.mx www.gigante.com.mx	http://www.bancomext.com.mx http://www.guadalajara.gob.mx http://www.df.gob.mx http://www.ife.org.mx http://www.inegi.gob.mx http://www.pemex.com.mx http://www.mexicoenlinea.gob.mx/ http://www.semar.gob.mx/ http://www.economia.gob.mx/ http://www.economia.gob.mx/
HEALTH PRODUCTS AND SERVICES	**FINANTIAL PRODUCTS AND SERVICES**	**TOURISM, PRODUCTS AND SERVICES**
http://www.baxter.com.mx http://www.pisa.com.mx http://www.biox.com.mx http://www.cardiolab.com.mx http://www.abchospital.com www.meddir.net www.nutrishape.net http://www.eficentrum.com/ http://www.itmedicas.com/ http://www.mejorvida.com	http://www.banamex.com http://www.bancomer.com http://www.bancoazteca.com http://www.hsbc.com.mx http://www.scotiabankinverlat.com http://www.abaseguros.com.mx http://www.ixe.com.mx/portal/ http://www.banorte.com http://www.harp.com.mx http://www.santander-serfin.com.mx	http://www.aeromexico.com/mex/spanish/index.html http://www.cancuntravel.com/ http://www.clickhoteles.com/ http://www.posadas.com.mx/ http://www.anberetours.com/ http://www.viajo.com/paginas/cobranded/viajo/splash.htm http://www.visitmexico.com/wb2/ http://www.turycon.com.mx/ http://www.hoteles.com/hotel-htdocs/hoteles.com/91874index.htm http://www.palacioazteca.com/

Appendix B

Questionnaire

A) SECTOR		
ART, CULTURE AND EDUCATION		SEARCH ENGINES
B2C STORES & ELECTRONIC COMMERCE		CORPORATE & BRAND
BUILDING		ELECTRONIC GOVERN SERVICES
ENTERTAINMENT		HEALTH PRODUCTS AND SERVICES
HARDWARE & SOFTWARE		FINANCES PRODUCTS AND SERVICES
MEDIA		TOURISM, PRODUCTS AND SERVICES

B) POLICY CHARACTERISTICS

A) The site has privacy policy? — Yes — No

B) Where on the home page the link to the privacy statement is?

C) Clicks to arrive to privacy policy from homepage

D) Language — Informal — Formal but clear / Legalese, dense

E) Structure — Monolithic — Structured with sub-headings

F) Which third party certification scheme or privacy seal do they use?
- TRUSTE — BBB
- RSAC — Health On Net Foundation
- ISP — RSC
- DMA — Getnetwise
- None

		Yes	No
G)	Do they conduct privacy audits?	Yes	No
H)	Does the privacy policy include the company's postal address?	Yes	No
I)	Do they link to an e-mail address or e-mail form?	Yes	No
J)	Does the privacy policy include the company's phone number?	Yes	No
K)	Does the privacy policy include the date of the last update?	Yes	No

C) DATA COLLECTION

		Yes	No
L)	Do they collect and store personally identifiable information?	Yes	No
M)	Do they collect aggregate user's information?	Yes	No
N)	Can users view, update, and delete their personal data profiles?	Yes	No
O)	Do they use sweepstakes and contest to gather costumer data?	Yes	No
P)	Do they collect user data via surveys?	Yes	No
Q)	Do they obtain user information from other sources?	Yes	No
R)	Do they store and use e-mail addresses from inquiries	Yes	No
S)	Do they use cookies?	Yes	No
T)	Do they point out that cookies can be disabled?	Yes	No
U)	Do they use web beacons?	Yes	No
V)	What kind of data can third parties collect?	Yes	No
W)	Can third parties send cookies or web beacons to users?	Yes	No
X)	Are third parties required to sign a privacy agreement?	Yes	No
Y)	Can users opt-out of third party data collection?	Yes	No
Z)	Do they send promotional e-mails to registered users and can they opt out?	Yes	No

D) SHARE INFORMATION

		Yes	No
AA)	Are the business agents they share data with bound?	Yes	No
BB)	Do they share aggregate information with affiliates?	Yes	No
CC)	Do they share PII with affiliates?	Yes	No
DD)	Do they share PII with third parties other than business agents?	Yes	No
EE)	Do they say that they NOT sell their data?	Yes	No
FF)	Do they share data obtained in sweepstakes, surveys or contests?	Yes	No
GG)	Do they share e-mail addresses?	Yes	No