Information Privacy: The Attitudes and Behaviours of Internet Users

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Abstract: The rise of electronic commerce and the Internet have created new technologies and capabilities, which increase concern for privacy online. This study reports on the results of an investigation of Internet users attitudes towards concern for privacy online, online behaviours adopted under varying levels of concern for privacy (high, moderate and low) and the types of information Internet users are protective of. Methodological triangulation was used, whereby both quantitative and qualitative research was conducted. A questionnaire and semi-structured individual interviews were used as the data collection methods. The results of a cross-sectional survey of 104 Internet users suggest a lack of control over personal information online, a lack of privacy rights online, a dislike of government regulation and other privacy concerns. Concern was decreased if personal information was provided for customisation or if there was the ability to opt-out. Anonymity also decreased concern. The qualitative results reveal five areas of concern for privacy, namely the role of Internet Service Providers, online businesses, Internet shopping, government regulation and general Internet privacy problems. This study attempts to add something of value to the body of knowledge regarding concern for privacy on the Internet in the context of South African environment.

Keywords: information privacy, demographics and on line users, Internet privacy policies, attitudes and behaviours of Internet users, anonymity, Internet and personal information, on line marketing practices

1 Introduction

There is a little research focused on the current attitudes and behaviours of South African Internet users and their concern for privacy online. Privacy is a social, cultural and legal construct (Pearce and Mahieu, 1997:69) and is defined as "the right of an individual to control the collection and use of personal information about themselves" (Henderson and Snyder,1999:213). Privacy is necessary to develop firm personality in individual (Agre and Rotenberg, 1998; Benassi, 1999). Users expect that their personal information will be protected in a responsible fashion without invasions into their private lives (Milne & Gordon, 1994).

Petraitis and De Baere (2000) analyzed the attitudes of South African and European consumers towards privacy on the Internet. They found that concern for privacy was highest when an Internet user was asked to disclose information or to enter into an online transaction. Other privacy issues that emerged were online intrusion/monitoring and the misuse of information collected.

Research findings show how Internet users explicitly indicate their concerns over the use of their personal data by marketing companies and government organizations (Nowak & Phelps,1992; Smith, Milberg, & Burke, 1996; Petraitis & De Baere, 2000; Phelps, Nowak & Ferrell, 2000; Rose, 2006).

Various studies have also investigated ethical, legal, technical and security issues with regard to consumer privacy (Miller & Weckert, 2000:256-257; Bloom, Milne & Adler, 1994; Miyazaki &

Fernandez, 2000). Most privacy issues occur due to the lack of policies in place to deal with new legal and ethical issues (Richards, 1997: 319). Other issues include automatic order entry, trust and information transparency (Nowak & Phelps, 1992: 38; Goodwin,1991:155; Noteberg, Christiaanse & Wallage, 1999).

Prior research has been conducted to a large degree in marketing and advertising related professions focusing on attitudes and cognitions of Internet users as consumers in the United States (for example, Hoffman, Novak & Peralta,1997; Bessen,1993; Morgan & Hunt,1994). Internet users' personal information and their privacy concerns should be carefully balanced when marketing decision and actions are taken (Milne, 1997; Milne & Boza, 1999; Milne & Rohm, 2000).

In general, Internet users are actively concerned about how their personal information is used, as they feel unauthorized access into their private information (Harris & Westin, 2000; Rose, 2006). There is a need to know what type of personal information are Internet users most protective of? (Nowak and Phelps, 1992: 36; Phelps et al, 2000:29). There is also a need to determine if Internet users are more protective over certain types of information, and to determine what these types of information these include (Ware, 1993; Smith, Milberg and Burke, 1996; Shaw, 2001).

The purpose of this article is to discuss these areas of concern for privacy and to understand South African users' sensitivity towards privacy online. Based on the research findings and discussion set above the following research questions and hypotheses regarding information privacy concern online were addressed in this paper:

1. *What are Internet users likely behaviours adopted under different levels of concern for privacy?*
2. *What types of personal information are Internet users most protective of?*
   H_1: Internet users will not be more willing to provide demographic and lifestyle information, than financial, purchase-related and personal identifier information.
3. *What are Internet user's general attitudes towards concern for privacy on the Internet? H_2: An individual's positive attitude towards privacy on the Internet, increase their concern for privacy.*

To answer above research questions and hypotheses it is necessary to follow the current body of literature which concerns six main areas: online privacy and anonymity, attitudes and privacy, types of information practices, Internet regulation policies, online marketing practices, demographics characteristics and information privacy.

First, the article provides a theoretical framework on different issues concerning privacy. The research methodology used will then be considered. Subsequently the findings to the research will be presented followed by a discussion. The conclusions to the research will be presented along with the implications of the research to organizations and practitioners. Finally, the article concludes by identifying future research opportunities.

2 The framework for users' information privacy concern on the internet

2.1 Online privacy and anonymity

Technology allows large amounts of information to be captured and manipulated. Privacy issues arise due to errors, collection and unauthorized access or secondary use of information (Campbell,1997: 51-54). The Internet has generated new privacy concerns and has exacerbated existing ones. Privacy concerns are internet-specific (e.g. cookies and search engines) or internet-enhanced information technologies (e.g. data surveillance and data mining) (Tavani,1999: 11).

The Internet allows electronically induced social roles to be formed, which have new rules, rituals and gestures (Introna, 1997: 268) e.g. publicness and privateness. Privacy allows intimate relationships to

be formed and for autonomy to exist within a society. Ethical dilemmas occur when the needs of businesses and individuals regarding what should remain private and public occurs (Miller & Weckert, 2000: 256-257; Foxman & Kilcoyne, 1993:108). Often individuals view privacy differently from businesses viewpoint.

Anonymity is viewed as a valuable feature online and can protect an individuals privacy, build trust and decrease concern for privacy online (Kling, Lee, Teich and Frankel,1999: 71; Hoffman et al,1997: 85).

2.2 Attitudes towards concern for privacy online

Attitudes about privacy concern have been researched internationally which indicate that information privacy is an important concern to many Internet users (for example, Nowak & Phelps 1992; Eddy, Stone and Stone-Romero, 1999; Maynard & Taylor 1996).

Goodwin (1991:155) discovered that individuals were becoming more concerned about their control of information exposé rather than environmental disclosure (i.e. who is present during an activity). Milne (1997: 303) found that consumers are greatly affected by not being informed which could influence their attitude. Wright and Kakalik (1997: 23) discuss the loss of control, by stating that individual consent was central to control and shaping negative attitude towards information disclosure.

Culnan (1993; 1995) discussed the secondary usage of information as an aspect of information privacy. It was discovered that individuals are less likely to perceive these practices as an invasion of privacy if a relationship exists, if an individual has the ability to control the future usage of the information collected and if the information collected is relevant to the transaction.

Before new technologies, individual specific information was difficult to find and harder to cross-reference. Private information was available, yet was not available for mass distribution. This mass distribution of data allows for data inaccuracies, a lack of control and the collection, dissemination and use of personal information (Wright & Kakalik, 1997: 22).

Henderson and Snyder (1999:218) stated that information should be collected for the purposes.

2.3 Types of information practices related to privacy

Cranor; Reagle and Ackerman (1999: 1-2) found that Internet users were more likely to provide information if not personally identified, that some types of information are more sensitive than others, that many factors determine what types of information an Internet user will disclose, unsolicited e-mail and automatic data transfer are disliked.

Caudill and Murphy (2000:11) discuss five types of information practices related to privacy, these include: notice/awareness, choice/consent, access /participation, integrity/security and enforcement /readdress. These types of information were also discussed by Sheehan and Hoy (2000: 62) as approaches to control concern for privacy online.

Wang et al (1998: 64) defined two types of personal information: static, in which the information does not change dramatically over time (e.g. financial information) and dynamic information, which changes dramatically over time (e.g. activity history). If data mining was performed on dynamic information, it could reveal inaccurate information about an individual and invade their privacy in this way. In addition, types of information are transaction based (e.g. providing personal information or credit card details). Other information are non-transaction based concerns (e.g. control over unwanted messages).

2.4 Internet regulation policies

The Internet has global reach but not global regulation policies. Milberg, Burke, Smith and Kallman (1995: 66-67) discuss five types of Internet regulation models: self-help, voluntary control, data commissioner, registration and licensing. In SA the Electronic Communications and Transactions bill gives legal status to electronic information (Valdemarca, 2002) but does not protect privacy rights online.

The Internet differs from traditional media and therefore needs different regulations in place in order to protect an individual's concern for privacy. Privacy advocates view the Internet as a new medium, with unique characteristics that differentiate it from traditional media. As no one has ownership of the Internet, no one has the sole authority to regulate the Internet (Richards, 1997: 319).

Shapiro (2000: 190) believes that the architecture of the Internet has the ability to allow businesses and the government to control the level of an individual's privacy. The success of businesses depends on building trust, which is an important factor in establishing privacy policies. By taking a proactive stance against privacy invasions through increasing self-regulatory policies, government intervention can be prevented.

2.5 Online marketing practices and privacy concerns

Online marketing practices e.g. data mining (combining information collected for one purpose with information collected for another purpose), data warehousing and micro-marketing (one-on-one-marketing) have increased concern for privacy online (Hoffman, Novak & Peralta,1997:2,4; Bessen,1993: 150-151). This concern can be decreased if the site establishes trust so that e-commerce will be adopted as a medium of business. Other collection technologies include mining electronic mail (e-mail) addresses, cookies and profiling (Caudill and Murphy, 2000: 9-11).

Morgan and Hunt (1994: 20) defined relationship marketing as the creation, development and continuance of a relational exchange. They believed that for relationship marketing to work, trust and commitment were important as this leads to efficiency, effectiveness and productivity of an organisation.

Goodwin (1991:156) conceptualised a consumer privacy framework to explore consumer privacy states based on two dimensions: i) control over information dissemination and ii) control over the presence of others. Milne and Rohm (2000: 246-248) used a similar framework, to measure awareness and control.

Milne (1997: 302-305) conducted a study on consumer's knowledge and control regarding name removal procedures and the ability to use personal information. It was found that using negative option formats and not asking an individual for sensitive information does not improve their willingness to join mailing lists.

2.6 Demographics characteristics of online users and information privacy

Research conducted by Nowak and Phelps (1992:35-37) reveals that older respondents are more concerned about privacy online and that a high concern for privacy online exists. Phelps, Nowak & Ferrell (2000), studied privacy and found different categories of individual specific information (e.g. demographics, lifestyle, and gender) had varying degrees concern for privacy. Women are more concerned online, while men are more likely to adopt an online behaviour in order to protect their privacy online (Harris et al., Westin 1998b; Sheehan, 1999: 31-33).

It has been observed that heavier users of the Internet for personal usage, are younger, less educated and have lower incomes. Individuals using the Internet for business purposes were found to dislike unsolicited e-mail, cookies and unwanted messages (Korgaonkar & Wolin, 1999: 65).

The Equifax/Harris Consumer Privacy surveys studied privacy in general and on the Internet. Findings show females, less educated and less affluent Internet users are the most concerned. Younger, affluent and better educated users are more likely to withhold personal information. The perceived lack of control over personal information leads to a refusal to provide personal information (Harris et al, 1995; Harris et al.,1996).

From this review of the literature available on privacy online the research methodology was formulated.

3 Research methodology

3.1 Research approaches

Information was collected on attitudes towards concern for privacy online, online behaviours adopted under varying levels of concern for privacy and the types of information Internet users are most protective of.

The research conducted utilized methodological triangulation in which both quantitative (phase 1) and qualitative (phase 2) research was conducted (Neuman, 1997; Remenyi, Williams, Money & Swartz, 1998). This allowed the weaknesses from the one method of data collection to be compensated by the other data gathering method (Krefting, 1991: 221). The research strategy used was a field study approach, in which data was collected using questionnaires (phase 1) and in-depth interviews (phase 2) (Marshall & Rossman, 1989: 31,78).

3.2 Phase 1: Quantitative research

3.2.1 Sampling

The sampling frame consisted of 104 individuals residing in the Gauteng province of SA, who were required to answer the questionnaire from a personal as opposed to business perspective. Random sampling was used to gather a sample size of Internet users.

Overall respondents were young, mixed ethnic groups, well-educated, heavy Internet and e-mail users. The sampling was performed without replacement, whereby individuals could only answer a single questionnaire. The anonymity of respondents in both instances was assured by the researcher.

3.2.2 Quantitative data collection

The main constructs were concern for privacy (dependent variable), attitude towards privacy (independent variable) and adoption of an online behaviour (independent variable). A survey was used as the research method and a questionnaire as the data collection instrument (Hussey & Hussey, 1997).

The questionnaire was divided into three sections: a) Demographics b) Attitudes towards concern for privacy online and c) Online situations. It was administered personally by the researcher and electronically via e-mail. Filter questions were used to select adequate respondents for the survey. If the questionnaire was received electronically, an introductory letter was included to explain the purpose of the study, to encourage their participation and to stipulate a two week cut-off date.

Respondents also received another e-mail one week later to remind them about the study and encourage participation.

A pre-test was performed on a small sample of the twenty respondents to test for ambiguities, problems, response rates and time taken to answer questions in the questionnaire.

3.2.3 Quantitative data analysis

Frequency distribution tables were used to show the frequency and percentages of respondent's answers. A frequency distribution table is used to organise data into classes or groups of values, which describe the characteristics of the data (Levin & Rubin, 1991:13). Tests of comparison were conducted between respondents who responded to the questionnaire in a printed format, to respondents who responded via e-mail.

Measurements were used such as the frequency, percentage, valid percentage and cumulative percentages. Other descriptive statistics used were the mean, median, mode, range, standard deviation and skewness. The following statistical tests were used:

- In order to generate general privacy topics, factor analysis with Varimax rotation and Kaiser Normalisation was performed. Factor analysis is a technique used to reduce data and to summarise data into categories (Malhotra, 1999:586).
- T- test is used to test for the differences in the means of paired samples (Malhotra, 1999:476). For the non-metric data Wilcoxon signed rank test was used
- In order to see if any relationships existed between certain demographic variables, cross tabulations were conducted. Cross tabulations is "a statistical technique that describes two or more variables simultaneously and results in tables that reflect the joint distribution of two or more variables with a limited number of categories or distinct values" (Malhotra, 1999:459).
- One-way ANOVA was conducted on the means of the factors. ANOVA is used to test the significance of the difference among more than two sample means (Malhotra, 1999:490).
- Bivariate correlation was used. Correlation is a measure of the degree of association between two variables. It is used to describe the degree to which one variable is linearly related to another variable (Levin & Rubin, 1991).

3.2.4 Assessment of trustworthiness: quantitative approach

Trustworthiness can be used to account for the validity and reliability of the research (Merriam, 1998:198; Krefting, 1991:214).There are four main elements of trustworthiness apparent in quantitative research: internal validity, external validity, reliability and objectivity (Krefting, 1991; Hussey & Hussey, 1997; Conger, Loch & Helft, 1994).

Providing the limitations to the applicability of the research findings, such as the sampling frame enhanced the internal validity. Linking the research findings to previous research findings enhanced external validity. Reliability was enhanced by providing the actual research methodology and questionnaire used in this research, so that the research can be successfully repeated. Last, objectivity was enhanced by using the same questionnaire for all respondents without the researcher's interference.

3.3 Phase 2: Qualitative research

3.3.1 Sampling

The same sampling frame that was used in the quantitative research was used to select respondents for the qualitative research. Individuals were selected using the convenience non-probability sampling procedure (Merriam, 1998). In total 10 individuals were interviewed. Respondents who had answered a questionnaire were excluded from the sampling frame for the qualitative phase as it was believed they could bias results. All interviews were conducted personally by the researcher and the anonymity of individuals was assured.

3.3.2 Qualitative data collection

This phase consisted of 10 semi-structured individual interviews, using an individual as the unit of analysis and a semi-structured interview as the research instrument. Questions were asked to gain a more in-depth understanding of the underlying motives and reasons as to why an individual has particular attitudes towards concern for privacy online. The interviews lasted between 25-30 minutes and were tape recorded and later transcribed.

3.3.3 Qualitative data analysis

The qualitative data was analysed using analysis within and between interviews (Merriam, 1998). The transcribed interviews were divided into words, quotes and descriptions of particular events in order to generate underlying themes, patterns and categories regarding concern for privacy online. This was then coded to provide more generalized information. The coded information was then used to represent a conceptual map of the overall findings from the qualitative data.

3.3.4 Assessment of trustworthiness: qualitative approach

Merriam (1998:200-212) suggested different measures of trustworthiness in qualitative research they are internal validity (observability), reliability (dependability) and external validity (generalizability). To enhance internal validity, the interview used probing techniques to obtain responses from interviewees. To enhance reliability, the interview questions were included in the research and the transcripts are available on request. Last, to enhance external validity, the limitations of the individuals interviewed in respect of their demographics were included to show the limitations of the ability to generalize the research results.

In qualitative research, an atmosphere of trust, openness and acceptance needs to be established (Merriam, 1998). It is also important to respect the confidentiality of the source of any evidence (Remenyi et al, 1998:228). There is also a lack of anonymity perceived (Merriam, 1998:214,217). This was overcome by creating a relaxing atmosphere in which the interview was conducted in, allowing and encouraging the interviewee to provide their own opinions and by allowing them to keep their anonymity.

4 Results of research findings

This section will begin with a discussion of the quantitative research findings, followed by a discussion of the qualitative research findings. Finally a discussion of the findings apparent in both of the research phases will be provided.

4.1 Quantitative research findings

4.1.1 Demographics characteristics of online users

Cross tabulations were conducted between gender and online usage, ethnic group and Internet usage, gender and frequency of checking e-mails, gender and purchasing online and between Internet usage and purchasing online.

Using paired sample t-test (see Table 3) and the Wilcoxon signed rank test for the non-metric data no significant differences were found between the groups of respondents. The tests conducted revealed no relationships between any of the demographic variables tested (see Table 1).

Table 1: Demographical Characteristics of Respondents

Demographical Variable	Demographical Categories	Percentages
Collected	personally	60.60%
	by e-mail	39.40%
Age	18-25	66.30%
	26-40	15.40%
	over 40	12.50%
	under 18	5.80%
Gender	Male	52.90%
	Female	47.10%
Ethnic Group	White	80.80%
	Indian	10.60%
	Black	3.80%
	Asian	3.80%
	Coloured	1.00%
Education	Degree	53.80%
	Matric	24.00%
	Diploma	13.50%
	High School (not Matric)	8.70%
Monthly Household Income	over 10000	70.20%
	under 2000	9.60%
	80001-10000	9.60%
	6001-8000	6.70%
	2001-4000	3.80%
	4001-6000	0.00%
Online Usage	More than once a day	31.70%
	A few times a week	26.00%
	Once a day	25.00%
	Once a week	8.70%
	Less often than once a week	8.70%
Frequency of checking e-mail	More than once a day	30.80%
	A few times a week	27.90%
	Once a day	25.00%
	Less often than once a week	9.60%
	Once a week	6.70%
Purchasing on the Internet	No	51.90%
	Yes	48.10%
When purchased	Six months ago	11.50%
	a month ago	9.60%
	a year ago	8.70%
	a week ago	6.70%
	three months ago	6.70%
	more than a year ago	4.80%
	missing	51.90%

This table shows the percentages of respondents who fell into the different demographical categories of the demographical variables included in the questionnaire. In total ten different demographical characteristics were asked in order to generate a rich demographical profile of respondents to the survey.

4.1.2 Online Behaviours

To answer the first research question different statistical tests were performed. Frequency distribution was used to show the frequency of respondent's answers. Respondents would fill in forms online if no personally identifying information was requested or if the site was known. Behaviour was not changed if a site contained a privacy policy. Customisation and the ability to opt-out were favoured. Respondents were concerned about cookies, but did not take steps to decrease this concern. Other concerns in ascending order include spam, collecting information without knowledge or consent, tracking and improperly using information and collecting information from children.

One question in the questionnaire consisted of nine situations (loss of control, adequate protection, businesses attention to privacy, governments influence, loss of control over information, privacy rights protection, anonymity of Internet and e-mail, tracking activities and spam, online activity spam) with varying levels of concern for privacy.

Factor analysis with Varimax rotation and Kaiser Normalisation (Malhotra, 1999) was used to generate 'concern for privacy categories' from the nine given situations.

The results of the factor analysis revealed four factors:

1. the right to protection (governments influence on privacy, privacy rights protection, tracking activities, online activity tracking and targeting),
2. loss of control online (loss of control, loss of the control over information),
3. protection and attention (adequate protection, attention of businesses to privacy), and
4. anonymity (anonymity of Internet usage and e-mail).

Table 2: Rotated Component Matrix for Privacy Factor Analysis

Privacy Statement	Component			
	1	2	3	4
Loss of Control	6.47E-02	8.65E-01	-3.66E-02	-1.99E-02
Adequate Protection	0.201	-0.168	0.782	2.99E-02
Business Attention to Privacy	-0.119	0.165	0.752	-2.98E-02
Governments influence	0.49	-5.30E-02	0.233	-0.489
Loss of Control over information	-3.03E-02	0.874	-4.85E-03	5.49E+01
Privacy Rights protection	0.576	-0.243	0.54	-2.21E-02
Anonymity of Internet and E-mail	9.74E-02	9.83E-03	7.57E-02	0.922
Tracking Activities and Spam	0.838	9.50E-02	8.64E-02	1.10E-02
Online Activity Spam	0.801	1.71E-02	-6.99E-02	3.81E-02

Once these categories were revealed, one-way ANOVA was conducted on the means of the factors. The p-value was 0.000, indicating that the differences between means of these factors are significant.

To answer the second research question respondents were provided with 15 items representing different types of information (1=always 4= never willing) (Phelps et al, 2000). The means for each item was calculated (e.g. age item), and thereafter the category means were calculated (e.g. demographic category). Paired sample t-tests were conducted to compare the means for the demographic and lifestyle categories, with the item means in the other categories.

The statistical tests favoured the alternate hypothesis stating *that Internet users are more willing to provide web sites with demographic and lifestyle information than financial, purchase-related and personal identifying information* (see Table 3).

This table shows the category and item means for each of the 15 items representing different types of information (e.g. demographic category mean 1.8 and age item mean 1.62). The means indicated were used to conduct the t-tests to determine if Internet users are more willing to provide certain types of information (e.g. lifestyle information) than other types of information (e.g. financial information).

Table 3: Results of T-tests performed on different information categories with mean values

Variable	Mean
Demographics Category Mean	**1.8**
Age	1.62
Marital Status	1.98
Occupation	1.86
Level of Education	1.77
Lifestyle Category Mean	**1.69**
Hobbies	1.63
Two Favourite Magazines	1.72
Two Favourite TV program	1.59
Two Favourite Charities	1.83
Most frequent purchases	2.13
Two Latest purchases	2.28
Personal Identifier Category	**2.2**
Identity Number	3.48
Telephone Number	3.39
E-Mail Address	2.53
Medical/Health History	3.03
Financial Category	**3.21**
Annual Income	3.21

4.1.3 Attitudes towards online privacy

This section presented several online scenarios with varying levels of concern for privacy, to answer the third research question. Respondents showed a lack of control over personal information collection and a lack of privacy rights online. No laws, regulations or government involvement could protect privacy online. Anonymity was favoured, and it was felt that businesses were paying more attention to privacy rights.

This section contained 15 online situations of varying levels of concern, measured on a 7-point Likert scale. Cronbach's alpha was 0.8495 indicating a satisfactory internal consistency. A variable "total concern" was calculated representing an individuals concern for each of the fifteen situations presented (15=no concern, 105=highest concern).

One-way ANOVA was conducted between three levels (low, moderate, high) to show if an individual's attitude towards concern for privacy, affected their concern for privacy online. The significance level was low (0.000) for all three levels indicating the differences were significant which provided support for the hypothesis two. Therefore an Internet user's positive attitude towards privacy on the Internet increases their concern.

Bivariate correlation was used whereby each of the 15 situations provided were correlated with the total concern variable. If any variables are shown to have a high correlation (r=0.70-0.99), the strength of this relation will be tested using linear regression (Hussey & Hussey, 1997: 227-229).
One situation, registering at a site and being entered into a contest, showed a high positive Pearson correlation (r=0.70 to 0.89) indicating a strong association between this situation (measuring attitude) and concern for privacy on the Internet. The strength of this association was tested using linear regression. The results had a low significance of less than 0.000 indicating that the independent variable (attitude), effectively explains the variation in the dependent variable (concern for privacy) (See Table 4).

Table 4: Correlation and Regression for online situations

Correlation	Pearson Correlation Coefficient
Low concern for privacy	
Company you e-mailed	0.481
Asked for your e-mail to send you information	0.651
Asked your name to access a homepage	0.527
E-mail from a company you do business with	0.436
Register at a site and receive a discount	0.678
Moderate concern for privacy	
Company whose webpage you visited	0.645
Information you give is used by the whole company	0.587
Newsgroup names to access homepage	0.339
E-mail from a company you don't do business with	0.69
Register at a site and are entered into a contest	0.741
High concern for privacy	
No idea how they received your address	0.602
Your information is sold	0.409
Identity number to access homepage	0.364
E-mail from an unknown company	0.592
Resister at a site and receive a mouse pad	0.617
Regression	**Significance**
Register at a site and are entered into a contest	0.000

This table shows the Pearson correlation coefficient values for the correlation tests conducted between 15 online situations of varying levels of concern for privacy (low, moderate and high) and the total concern variable. The table also shows the significance level of the regression conducted between the statements which had a high Pearson correlation value.

4.2 Qualitative research findings

Qualitative research was conducted in order to answer the research question 3:

> *What are Internet user's general attitudes towards concern for privacy on the Internet?*

The seven categories with corresponding evidence which emerged from the interviews were summarised below:

1. **Privacy protects an individual freedom**: One informant claimed that "*privacy allows for thought processes to occur...I feel that I have more freedom to do things...*". This notion was also discussed by Introna (1997:260) as transparency
2. **Lack of awareness and anonymity on the Internet**: The general privacy concepts on the Internet that appeared were: "*…a lack of awareness, a lack of consent and a lack of anonymity.*" A lack of awareness and a lack of informed consent on behalf of the Internet users would most likely result in a change in their behaviour.
3. **Online businesses create security**: The users commented that "*Online businesses play an important role in providing security to their customer…it creates a trust...*"
4. **Shopping on the Internet is based on trust**: The comment from one user was, "*Shopping should only be done at known and reputable sites...it is a matter of trust.*"
5. **Government regulations: providing a self-regulatory model**: Respondents felt that "*the government should not intervene but rather provide unlimited access and choice, which basically is a self-regulatory model*".... Government intervention was perceived as a communist reform.

6. **Internet Service Providers (ISP's)**: **atmosphere of trust:** The role of ISP's was perceived to be that of "*providing protection, security and control over information, which eventually would create an atmosphere of trust.*"
7. **Privacy policy on the Internet**: Users commented that, "*…it is not desirable to be tracked and recorded without our   knowledge*" In addition one respondent stated that " *although privacy policies are a good idea, I would not personally read them regardless of whether I am concerned about their privacy or not*".

The seven main categories which were uncovered provide useful insights into the broader topic of privacy on the Internet. Most individuals appear to value their privacy, despite it having different meanings to different individuals.

5 Discussion of findings

In terms of demographical characteristics this study revealed that respondents were as likely to be male as to be female, well-educated, middle-high income and younger. This corresponds somewhat to Korgaonkar and Wolins (1999:83) findings, that a typical web user is more likely to be male, well-educated, middle income and middle-aged or younger.

Respondents believed that they had lost all control over how personal information about them was collected and used. This is consistent with the 1995 Harris-Equifax study, in which 80% of respondents agreed that they have lost all control over their personal information (Harris et al, 1995). This confirms Foxman and Kilcoynes' (1993:107) research in which they stated that consumers value their privacy and dislike intrusive selling and unwanted dissemination of their information.

Most respondents believe that there are not enough laws and regulations in place to protect privacy rights online. Richards (1997:319) stated the web exacerbate privacy problems.

Internet users did not feel that the government would be able to protect their privacy rights online. This differs from Petraitis and De Baeres' (2000:1) research where the government was viewed as having an important role in reassuring consumers and providing a legislative framework. In other countries appears to be the case as there is strong support for Internet self-regulation (Milberg et al, 1995:72). It appears from findings, that individuals would adopt a self-regulatory behaviour when faced with a situation of concern for privacy online.

The Self-help regulation model was discussed by Milberg et al (1995:66-67) who also found that higher concern for privacy was associated with increased degrees of government control.

Anonymity was something favoured by a large percentage of respondents. Hoffman et al (1997:3) claim that anonymity is a valuable and desirable quality and is a powerful method to protect information privacy. Although most informants liked the idea of anonymous Internet access, and to a lesser extent anonymous e-mail, they did not believe that it was a viable choice. Few liked the idea of anonymous e-mails as it could hide illegal activities.

Kling et al (1999:71) suggested that the appeal of the Internet lies in its ability to support anonymity as it increases freedom of speech, the ability to communicate with strangers and to be free from detection. These were the same types of ideas exposed in the interviews as to why anonymous communication is favoured. If e-mails are anonymous, they could prevent the sender from being uncovered, which has many implications if the content of the e-mail is questionable. This view was also discovered by Richards (1997:319) and Cranor et al (1999:1-2).

Transaction-based security and privacy concerns were the security and privacy aspects of online shopping. It showed that individuals were uncomfortable providing their credit-card details online and well as their transaction-based privacy concerns.

In Sheehan and Hoys (1999:45) research, they found that as an individuals concern for privacy increased, they were more likely to notify ISP's of unsolicited e-mails. Findings from this research indicate that this is not the case. They would also choose better-known ISP's, who would protect their privacy rights online.

Most respondents disliked targeted e-mails profiled according to their behaviour online. Respondents also felt that they should not be able to be profiled and targeted by online businesses.

The role of online businesses in increasing concern for privacy, according to informants, was mainly based on establishing a trusting relationship, which would then increase perceptions of security and privacy on the Internet. This view was shared by Foxman and Kilcoyne (1993:115), Hoffman et al (1997:85), and Milne and Boza (1999p9). Hoffman et al (1997:10-12) in particular discussed the issue of the security of online transactions.

Informants disliked the ability to be. Most informants viewed privacy policies as an important step businesses should take to ensure the privacy of visitors to their sites. Milberg et al (1995:72-73) suggested that privacy policies have the ability to decrease concern for privacy.

Individuals did not like disclosing personally identifying information to sites. Phelps et al (2000) and Cranor et al (1999) also showed that individuals are the least likely to provide personal information online. In Cranor et al's (1999) study, the respondents were generally comfortable providing preference information to web sites. This study showed only a slightly favourable attitude towards this practice. Respondents favoured customisation, as long as they were not personally associated with the information.

Demographic and lifestyle type of information is less sensitive than financial, purchase-related and personal identifier information. This is consistent with Phelps et al (2000:32-33), and Nowak and Phelps (1992:36).

Receiving unsolicited e-mail, spam was disliked and sometimes viewed as a serious privacy violation. This is consistent with Cranor et al (1999:1-2), who found respondents, had a strong desire to avoid unsolicited communications.

The most serious online behaviour was collecting information from children and collecting information without an individual's knowledge or consent (Cranor et al., 1999; Culnan,1993).

The findings indicate that an Internet user's positive attitude towards privacy increases their concern for privacy. In the interviews, the main violations of privacy that were experienced by individuals online emerged as lack of awareness of being tracked, not being consented and lack of anonymity.

In the interviews respondents confirmed Richards (1997:319) discussion on the legal implications and regulatory policies of the Internet. The Internet would not be able to ever be fully regulated due to its reach, the legal issues involved globally and due to the inability for one body to control the Internet. The lack of the ability of the Internet to have a single standard policy was also discussed by (Milberg et al, 1995:67).

Individuals strongly disliked government regulation of the Internet, as this is viewed as a movement away from a democratic and free country. Instead, most individuals would prefer self-regulation advocated by themselves and online businesses (Milberg et al, 1995).

A lack of trust of online businesses was a concern brought up by many respondents. Trust, along with commitment was also a factor contributing to establishing successful relationships between online businesses and consumers engaging in e-commerce (Morgan ˛& Hunt, 1994:20). To protect themselves respondents performed various things (e.g. blocked cookies, did not register at sites and refrained from purchasing online).

Most informants brought up the issue of trust and reputability in their decisions as to purchase online or not. Security, in particular of providing their credit-card details online to online businesses was also mentioned (Korgaonkar & Wolins, 1999).

Most informants thought that ISP's played a significant role in protecting their personal privacy. Respondents were more likely to delete the unsolicited mail, rather than contact their ISP. Therefore regarding online behaviours adopted, individuals initially select better-known ISP's that could provide them with the most privacy protection, however will not notify the ISP if they felt that their privacy had been violated. Respondents in this study did not feel that there was adequate privacy protection.

6 Conslusions and closing remarks

This research was conducted to add value to the body of accumulated knowledge regarding concern for privacy on the Internet. Some specific conclusions were derived in the attempt to create an appropriate environment for managing users' privacy concerns on the Internet:

- The majority of users are becoming increasingly tight knowing that their personal information is being shared. Unsolicited e-mail, is seen as an invasion of users' personal privacy. It is disliked that information is being collected, and sold or distributed throughout an organisation without users' knowledge.
- Online businesses and Internet users have different views regarding what information is private. Trust of online businesses can be enhanced through privacy policies, and by paying attention to the security of private information that is collected. It appears that individuals do not adopt the behaviour of reading privacy policies when online.
- Awareness and consent were viewed as important strategies online businesses should follow if they are to protect the privacy rights of individuals online. The main online behaviours are: the lack of awareness of being tracked, not being consented and loss of control over information.
- Government intervention is disliked and preferred Internet self-regulatory policies.
- Anonymity is favoured on the Internet.
- ISP's should use self-regulation and education to protect the rights of Internet users.

Although this research provides useful insights into the attitudes and behaviours of Internet users, it can be constructive to conduct further research. For future research it would be beneficial to centre attention on the protecting privacy rights and self-regulation and develop strategies to communicate principles and objectives of privacy policy.

There should be necessary investigation to include appropriate technologies to protect personal information and provide users with the opportunity to correct or delete information. Ethical, legal, technical and security issues will continue to arise until adequate policies are put into place to manage the increasing privacy concerns developing from this new media.

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