DOES KNOWING THE RISK IMPACT ON WEB 2.0 USAGE AND SECURITY PRACTICES OF ONLINE USERS?

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Abstract

Significant changes have taken place on the Internet in recent years. The most prominent is the introduction of Web 2.0. This study investigates the usage patterns, and awareness levels of the risks and controls associated with Web 2.0 by educated and uneducated users. Accounting students are taught about the risks and controls of Web 2.0 as part of their studies, whereas Business Strategy students' exposure is limited to popular media and their own research. Contrary to expectation, it appears that being formally educated on Web 2.0 does not have a greater impact on user behaviour than popular media.

Key words: Internet risks, Web 2.0, online usage patterns, Controls, User behaviour

Introduction

The manner in which technology is being used is evolving, convergence of technologies is taking place, the level of integration between platforms is increasing, and collaboration has taken prominence. Often these developments are driven by Web 2.0 technologies (referred to as 'Web 2.0' henceforth). Although numerous definitions for *Web 2.0* exist, it is not well defined and is continuously evolving. On 27 March 2013, Wikipedia (2013) defined Web 2.0 as:

> Web applications that facilitate participatory information sharing, interoperability, user-centered design, and collaboration on the World Wide Web. A Web 2.0 site allows users to interact and collaborate with each other in a social media dialogue as creators of user-generated content in a virtual community, in contrast to websites where users are limited to the passive viewing of content that was created for them.

Modern business struggles to operate without being exposed to the Internet, even in South Africa, with low Internet penetration. This trend is driven by the new generation of Internet users entering the workforce (from university) (Hampton, Goulet, Marlow, & Rainie, 2012). The number of Internet incidences has increased and consequently more emphasis has been placed on advising the general public on the appropriate use of Web 2.0. Popular media mainly drove this increased awareness. This also had an impact on modern auditors, requiring them to be more aware of Internet risks and related controls. In order to react to this, auditing students are taught about the Internet risks and related controls. Various new modern teaching tools are used to illustrate the risks and controls to accounting students. The question arises whether these teaching tools have a greater impact on students' online behaviour compared to popular media.

Review of Historic Research

As the popularity of Web 2.0 grew, the popular media published various articles on, for example, security risks relating to Web 2.0, while others focused mainly on business risks (D'Agostino, 2006; Fanning, 2007; Mitchell, 2007). Popular media publications in almost every industry have published some kind of article outlining how Web 2.0 has impacted that specific industry. Most research has been conducted by private organisations such as Gartner, Clearswift, Pew Internet & American Life Project and KPMG, amongst others, with limited academic peer-reviewed research being performed (Shin, 2008). Initially, research focused on understanding the technology, its benefits, uses in a business environment, and potential challenges (Clearswift, 2007a; 2007b). Attempts have been made to develop an organisational framework to help businesses to understand and address Web 2.0. Other research studies focused on the areas of privacy (Cavoukian & Tapscott, 2006), collaboration (Lee & Lan, 2007), users' behaviour patterns (Horrigan, 2007; Lenhart & Madden, 2007a & b; Shin, 2008; Smith, 2011). Much work has been conducted on users' behaviour, and how users manage their identity and privacy. The Pew Internet & American Life Project conducted a series of studies on various user groups ranging from teens to established employees. Earlier studies (Fox, Rainie, Horrigan, Lenhart, Spooner, & Carter) in 2000 focused on the use of the Internet. Early in 2007, when the focus changed to Web 2.0, Lenhart and Madden (2007a) conducted a survey of young people between the ages of 12 and 17 across the United States. The study focused on which sites were used, the reasons for use and how they were used, as well methods to mitigate any potential threats. During April 2007, another study by Lenhart and Madden (2007b) investigated a similar research question. Guess (2007) investigated how college students use Information Technology (IT) and its impact on improving the learning experience. He noted a change in the reasons why students were using the Internet, as well as the tools being used. This confirmed comments by Horrigan (2007). Later research focused on business users' behaviour in general (Clearswift, 2007a), as well as industry-specific business users such as human resources professionals (Clearswift, 2008). In this research studies treated each group as a homogenous group, and there was an implied assumption that the users are informed and aware of the risks and safeguards relating to Web 2.0. A similar study taking user knowledge explicitly into account has not been conducted.

Problem Statement

The introduction of Web 2.0 and the increasing number of online threats have resulted in emphasis being placed on Web 2.0 risks and its related controls, which inherently changed user behaviour. The general public and specialist industries have reacted to this change. The number of articles in the popular media on the risks and controls of Web 2.0 have increased. Similarly, the auditing profession has reacted by specifically including online risks and related controls into the Accounting curriculum. The question arises as to whether formal teaching of risks and controls relating to Web 2.0 has a greater impact on user behaviour than simply obtaining awareness from popular media. The primary objective of this research is to identify whether differences exist in the Web 2.0 usage behaviour of educated compared to

uneducated users.   The secondary objective is to establish whether being educated on the risks and controls of Web 2.0 influences users behaviour in terms of: (i) awareness of; and (ii) the manner of interacting with Web 2.0. The study investigates students, because they are the future business IT users, and are arguably the most connected Internet users in South Africa because they are accustomed to having access to computer facilities on campus and are the early adopters of technology (Clearswift, 2008). Students majoring specifically in Accounting, as well as Business Strategy (as a proxy for educated and uneducated users, respectively) are considered. Accounting students are taught about the risks and controls of Web 2.0 as part of their Auditing module, whereas Business Strategy (refer to as Strategy henceforth) students are not. The Accounting students are taught using various methods and technologies, whereas Business Strategy students are exposed to Web 2.0 only via popular media or their own research. It is important to understand which delivery mechanisms have the greatest impact on how Web 2.0 users manage their identity. The results will help business determine whether formal education or learning-by-doing will aid in the adoption and diffusion of Web 2.0.

Method of teaching Web 2.0 risks and controls

The Strategy curriculum does not include IT as a subject, while Accounting students are taught the risks relating to the Internet, as well as related safeguards, in their IT, Auditing and Governance courses. The Accounting students are not only taught about the risks and controls, they are also taught a framework to identify risks and formulate controls. Teaching is mainly face-to-face, with all under- and post- graduate modules being blended, using compulsory online activities, business cases and additional reading. The following study aids were used in Accounting lectures to illustrate the risks and mitigating controls:

- Textbooks and detailed class examples of risks and controls, as well as examples of what can go wrong if systems and controls are not implemented;
- Screenshots showing pictures of the controls;
- Illustrations of walk through tests and class discussions on do's and do not's;
- Class examples and homework assignment questions; and
- The students were assessed using a theoretical company highlighting the importance of governance; and of using frameworks to learn.

The students were not only taught by means of examples, they were also taught using a principled-based approach that would allow them to understand any technology.

Research Methodology

A literature review was undertaken to identify existing research on online users' behaviour. A web-based survey was conducted among students majoring in Accounting, as well as Strategy (as a proxy for educated and uneducated users) in the Faculty of Economic and Management Sciences at a South African university to assess the practices they employed when using Web 2.0. The questionnaire investigated how the students' manage their Web

2.0 identity and their usage patterns; and evaluated the users' awareness of the risks relating to Web 2.0 and how they manage these risks. Particular consideration was given to the risks and safeguards the students are taught in class. Before the questionnaire was distributed to the target student population, the questionnaire was reviewed by lecturers in the field of Strategic management; Information systems, Auditing; a statistician; and ten volunteers from the target population. They considered the logic and ambiguity of the questionnaire. Minor amendments were made based on their feedback. The responses were scrutinised to eliminate incomplete responses, while cluster analysis was performed on the open-ended questions.

Target Population

The target population allowed the researchers to identify whether Accounting students employ better online practices as they become more technology literate and aware of the dangers of Web 2.0, as opposed to Strategy students, who are arguably less computer aware users. The nature of the two courses has an impact on how students learn and what students use to learn. Accounting students have a structured course (set by an external accreditation body) with limited need for students to access online resources for class. These students are not required to perform additional research on the course material. Most of the learning material is prescribed and provided to the students. The Strategy students, on the other hand are taught in a less structured manner and the course content is determined by the lecture. They place greater reliance on case studies, simulations, projects and self-study and their own research. The Strategy course carries a lower credit weighting, which requires them to spend less time working. The Accounting course is known for being a more rigorous course, not only taking up more time, but also being more onerous, requiring students to memorise the work and understand principles. Table 1 highlights the key differences between the two groups of students.

Table 1

Key Characteristic Traits of the Two Groups of Students

Accounting	Strategy
Risk averse	Risk aware
Followers	Leaders and strategists
Likes structure	Abstract
Employees	Entrepreneurs
Independent workers	Collaborators
Not required to do research	Able to perform independent research

In total, 3, 219 invitations to participate in the study were sent to students. Altogether 751 students completed the questionnaire. The response rate of 23.3% is considered sufficient to arrive at the necessary conclusions. Table 2 reflects their response rates.

Table 2

Population and Response Rates of Two Groups of Students

	Population	Responses	Rate	Overall rate
Accounting	2944	660	22.4%	23.3%
Strategy	275	91	33.1%	

Findings

Respondents' Profile and Internet Activity

The 660 Accounting respondents were comprised of 54% male and 46% female students, of whom 71% were white, 24% black (5% preferred not to indicate). The majority (58%) of the Strategy respondents were females; 65% of the respondents were white (13% preferred not to indicate). The demographic profile is not as important as the respondents' connectivity, because all respondents, other than using their cell phones, had access to the same resources at University (high-speed access points) (Table 3).

Table 3

Main source of Internet Access

	Accounting	Strategy	Average
University facilities	66.6%	69.0%	67.8%
Place of residence	29.7%	31.0%	30.4%
Other	4.0%	00.0%	4.0%

The source of access had a direct impact on the frequency at which the respondents accessed the Internet and the time spent online. Although Strategy students spend more time online, Table 4 (Panel 1 [P1] and 2 [P2]) shows that both groups actively used Web 2.0 and that it is a favoured activity. Of the Accounting students, 76% indicated that they accessed Web 2.0 sites at least once a week, compared to 95.3% of Strategy students. Of these, 50% spent in excess of 3-4 hours per week on these sites. Whereas Accounting students have a longer tail distribution of average time spent on the Internet. 21% of the Accounting students did not know how much time they spend online in the average week. It could be argued that when student indicated that they "do not know," it means that they in actual fact spend a lot of time online, which might change the distribution. The difference in number of accesses per period is attributed to the fact that the Accounting course is the more onerous and time-consuming course of the two. The strategy students have more time available and hence spend more time online. Howe (2008) and Carr (2008) argued that availability, access and use of Web 2.0 have changed behaviours and that is has the potential to spur significant changes in how users conduct themselves socially, at work, and while studying. This could have implications for organisations, as the students, once employed, would have direct access online from their workplace.

Table 4

Usage patterns

P1: Frequency of usage	Accounting	Strategy	P2: Regularity of use in an average week	Accounting	Strategy
Several times a day	15%	63%	5 hrs and more	15%	25.4%
Once a day	24%	17%	4 hr to less than 5 hrs	11%	12.7%
A few times a week	28%	11%	3 hrs to less than 4 hrs	9%	20.6%
Once a week	7%	5%	2 hrs to less than 3 hrs	12%	19.0%
Once a month	4%	0%	1 hr to less than 2 hrs	17%	15.9%
Less than once a month	2%	2%	ten min to less than one hr	11%	4.8%
Do not access these sites	2%	0%	Less than ten minutes	4%	0.0%
Ad hoc access as required	3%	0%	Don't know	21%	1.6%
Don't know	15%	3%			

Nature of Most Frequently Visited Sites

A summary of the most frequently visited sites is presented in Table 5. It is interesting to note that the sites with a direct communication component are used more often than content driven services by Accounting students, while Strategy students reflect a different usage pattern. They present a more even distribution of use across all types of sites. Social networking sites rank second to e-mail usage for both groups of students. These patterns can be explained by:

- The difference between the usages of the two types of personal communication platforms could be attributed to the fact that open communication platform usage is under estimated, because mobile access is not considered as part of the study. Many South-African students access social media from their cell phones.

- The nature of the two courses impacts on how students learn and which resources they use to learn. As noted, Accounting students have a structured course with limited need to access online resources for class, whereas Strategy students are taught by means of case studies, etc., and requires them to do research.

- The Strategy course carries a lower credit loading, which required students to spend less time working, giving them more time on the Internet, possibly for entertainment purposes. Accounting students do not have time.

Table 5

Most Frequently Visited Types of Sites

	Accounting	Strategy
Personal communication		
Closed one-on-one communication	40.7%	19.92
Open communication	27.80%	12.82%
Information source		
Passive interaction information sources	15.70%	19.33%
Active interaction information sources	4.40%	18.93%
Sharing sites	8.90%	17.75%
Online applications, services and worlds	2.60%	11.24%

Awareness and Utilisation of Web 2.0 services

Although a wide range of services are used, 82% of the Accounting students were not always aware that they were using Web 2.0 services. The Strategy students had a greater awareness (49.2%) of Web 2.0 services they used. Both groups of students were able to identify Web 2.0 and could correctly list the differentiating characteristics of these sites. This is important because the changes in technology, give rise to new risks and new safeguards. Figure 1 and 2 reflect the activities performed online and concurs with work by Guess (2007) and Horrigan (2007).
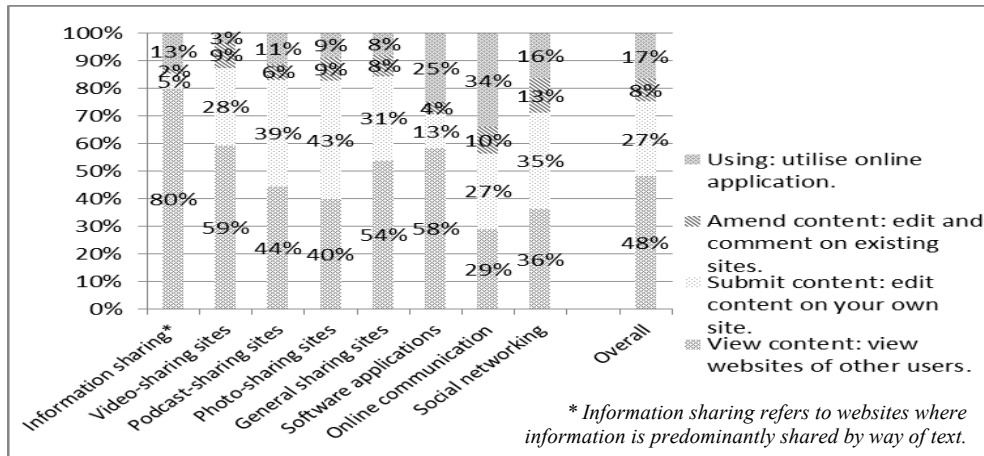
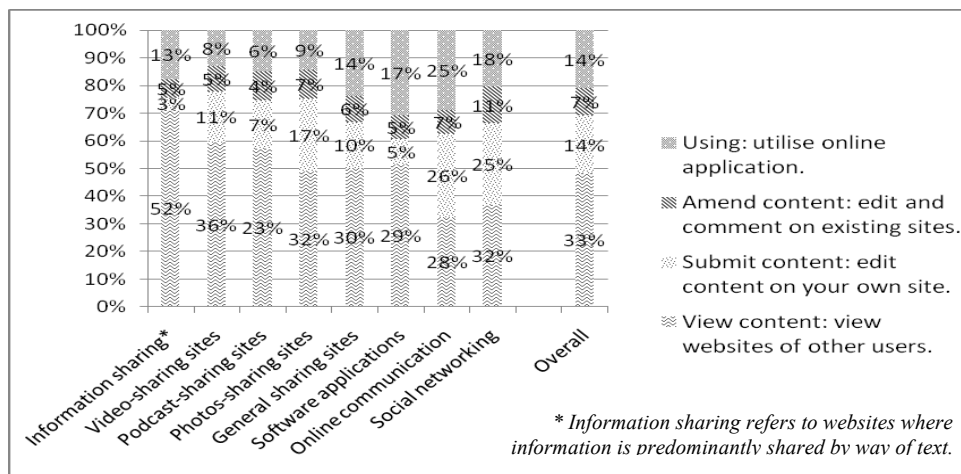*Figure 1.* Methods of Interacting with Web 2.0 by Strategy students.

Figure 2. Methods of Interacting with Web 2.0 by Accounting students.

More than half of the students (53.3% - Accounting; 77% - Strategy) indicated that their main activity on the Internet was to view content. A significantly smaller portion of Accounting students indicated that they submitted (15.0%) and amended (8.4%) information online, while 23.3% made use of online applications. The Strategy students showed a similar profile with 16.4% submitting information; a slightly higher percentage (18.0%) amending information and comment on Web 2.0 sites; while 24.6% used online applications.

The influence of Web 2.0
Web 2.0 uses more resources such as bandwidth and time because Web 2.0 is typically more media rich than Web 1.0 and could therefore negatively impact students and others. Table 6 investigates the effect of Web 2.0 on resources.

Table 6

Impact of Time Spent on Web 2.0 Sites

	Accounting	Strategy
Does not influence the university's resources.	30.5%	33%
Does not influence other students and colleagues.	57.4%	58%
Influences on a students' studies.	46.0%	47%
Does not influence a students' social life.	48.2%	43%

Both groups responded similarly and were of the opinion that Web 2.0 usage did not influence university resources, but did impact on other users. This might be because the majority of the students used the university's facilities to go online. Just under half of the students believed Web 2.0 use influences students' studies by taking up study time. The result, taken in conjunction with the nature of the Web 2.0 services used, may indicate that the effect will be predominantly negative. It appears (from Table 5) that Web 2.0 is for the most part used for social networking, communicating and entertainment, none of which are primarily academic in nature.

Risks and Consequences
Unproductive time and resources constitute only one risk. It appeared that Strategy students (75.8%) were more aware of the risks in Web 2.0 compared to 65.3% of Accounting students that stated that they were not aware of the risks posed specifically by Web 2.0. This is contrary to expectations and can be surmised that this is due to the fact that the Strategy students are not able to distinguish between Web 1.0 and Web 2.0 sites and overstated their knowledge and are not aware that the risks are different. Accounting students are taught about the vulnerabilities that affect Web 2.0, being distinct from Web 1.0 vulnerabilities. They might understate their knowledge. The two groups of students were required to rate seven potential risks, where '1' was the most significant risk and '7' was the least significant risk. Table 7 contains the average ratings for the risks. Irrespective of whether the students were taught about the risks or not, neither of the ratings reflected theory and what students are taught in class. The Strategy students rated the risks higher. The most significant risk, according to the Strategy students, was the possible breach of security controls, while the Accounting students indicated electronic intrusion as a major risk factor. The last three risks were rated relatively low by both groups of students.

Table 7

Average Ranking of Risks by Two groups of Respondents

	Accounting	Strategy	Theory
Embedded electronic intrusion	1.96	2.8	Easiest controlled
Phishing attacks, including spam.	2.63	2.8	Easiest controlled
Breach of security of website controls	2.64	2.5	Greatest business and audit impact
Information leakage and brand damage	2.92	2.6	Small or no audit impact
Unproductive time	3.38	4.2	Small or no audit impact
Content errors on websites	3.40	4.0	Small or no business impact
Denial of service	3.59	4.0	Greatest business impact

Inappropriate Disclosure of Information
Many of the risks presented in the previous section arise from sharing too much information. Approximately 80% Accounting students and 98% Strategy students believed they share too much information. In sharing information online, two types of personal information could be posted: (1) when creating a profile or (2) through posting on websites. Both groups of students post similar information online when creating a profile. It does however appear that the Accounting students are more averse to posting information, as highlighted by the lower percentages in Table 8. The students indicated that when they created profiles, they are most likely to share

personal information, followed by information about where they reside, followed by contact information. They were less likely to share content that is resource intensive, possibly due to cost implications rather than security concerns.

Table 8

Nature of Information Shared when Creating a Profile

	Accounting	Strategy		Accounting	Strategy
First name	94.50%	98.4%	Student e-mail	39.20%	40.8%
Last name	87.50%	90.6%	Personal e-mail	36.60%	38.1%
Photos of yourself	83.00%	92.2%	Contact numbers	21.40%	28.1%
Name of university	77.20%	87.5%	IM screen name	20.70%	15.6%
Photos of friends	70.80%	79.7%	Current address	19.30%	15.6%
Place of residence	70.20%	73.0%	Videos	13.80%	17.2%
Full date of birth	68.20%	65.6%	Employer details	6.60%	17.2%
Hobbies	57.50%	57.8%	Streamed audio	6.00%	4.7%
Name of school	55.40%	73.4%	Links to blog	3.70%	0.0%
Likes and dislikes	52.60%	68.8%	Work e-mail	3.50%	20.3%

In light of the responses above, the students were asked which types of information they disclosed either on their own or someone else's Web 2.0 sites (Table 9).

Table 9

Nature of Information Shared on Web 2.0, Other than When Creating Profile

	Accounting			Strategy		
	Yes	No	Maybe	Yes	No	Maybe
Biographical information						
Gender	85%	9%	6%	93%	3%	3%
Age	75%	13%	11%	72%	16%	11%
Town/city	66%	21%	13%	79%	15%	7%
Name and location of university	64%	23%	13%	80%	7%	13%
Parents' professions	16%	70%	14%	7%	85%	8%
Address, home telephone number, parents' names	13%	72%	15%	19%	73%	8%
Contact information						
E-mail	53%	33%	14%	57%	30%	13%
Area code	30%	58%	12%	31%	64%	5%
Cell phone number	25%	62%	13%	29%	58%	13%
IM screen name	22%	61%	17%	19%	74%	6%
Personal information						
Areas of interest	62%	23%	15%	64%	26%	10%
Religious affiliation	62%	25%	13%	61%	33%	7%
Personal preferences (movies, food, *etc*)	62%	24%	14%	75%	16%	8%
Boyfriend or girlfriend status	61%	25%	13%	56%	31%	13%
Pictures or photos	61%	24%	15%	82%	10%	8%
Profession	56%	31%	14%	51%	36%	13%
Pet information	36%	49%	15%	16%	77%	7%
Physical appearance	34%	44%	22%	23%	68%	10%
Sharing your experiences about your life	33%	48%	19%	41%	43%	16%
Gossip	25%	57%	17%	11%	75%	13%
Personal identification information	10%	82%	8%	3%	89%	8%
Passwords or combinations	12%	84%	4%	6%	94%	0%

On a whole, it appears that Strategy students are more willing to share information than Accounting students. Both groups of respondents would be

willing to share biographical and personal information and less likely to share all types of contact information. It is interesting to note that Strategy students, in contrast to Accounting students, are more willing the share biographical information, while being less willing to share personal information. The lower willingness to share personal information could be attributed to the fact that students might fear being unnecessarily contacted, rather than because of security concerns. Most would however disclose their e-mail. Over a quarter of the students would provide their cell phone numbers and under a fifth would knowingly provide other information that might allow someone to find them easily, such as address, and home phone number. Of Accounting students, 12% would provide their passwords online and 10% of these students would share personal identification information such as identity numbers, or medical information, even though they are taught about the risks in class. A significantly lower number of Strategy students would disclose similar information.

Safeguards to Mitigate Risk

In order to limit the risks, safeguards could be implemented by limiting use, self-protection, or policy implementation. Of the students, 39.9% Accounting and 35.9% Strategy students felt that their activities did not expose them to risks requiring them to change their behaviour. Surprisingly, both groups of students reflected similar responses, irrespective of the fact that the Accounting students were taught the risks in class: 60.6% Accounting and 75.0% Strategy students stated that they did take some steps to protect themselves. Table 10 suggests that Strategy students are more likely to implement controls.

Table 10

  Most Frequently used Safeguard

	Accounting	Strategy
Use security settings	88.4%	92.0%
Use of policy	82.8%	87.5%
Made information only available to friends	76.3%	89.1%
Password protection	59.4%	79.7%
Providing as little personal information as possible	50.4%	59.4%
Only disclose information to known friends	37.1%	57.8%
Block access	32.3%	33.5%

Discussion and Conclusion

Internet security and privacy has received much publicity and with the growing use of Web 2.0, these issues will not abate in the future. Formal user education is seen as the solution, but is not always effective. A survey was conducted to determine whether differences exist in Web 2.0 user behaviour of educated compared to uneducated users, by making use of proxies, specifically students majoring in Accounting and Strategy. The Accounting syllabus includes risks and controls of Web 2.0, whereas Strategy does not. The results indicate that the use of Web 2.0 is popular irrespective of which course they major in. The Strategy students do however spend more time online and tend to use Web 2.0 sites for many uses, other than communication. The Web 2.0 awareness levels of both populations were relatively high with no significant differences. As far as the potential risks are concerned, both groups of

respondents were aware of the risks and indicated that they did take some measures to protect their online identity, but they implemented safeguards in a haphazard manner. Given the distinctive characteristics of the two groups of students, it is expected that differences should be observed between their ranking of potential risks and potential controls. Contrary to expectation, the level of usage; type of Web 2.0; types of risks; and the manner and frequency of sharing by the two populations were not found to differ significantly. However, Strategy student do tend to rate the risks higher and are more likely to implement controls. The research highlights that although Accounting students are taught about the risks and controls, they do not consider these risks and controls in their personal life. It appears that being educated on Web 2.0 risks does not have a larger impact on user behaviour than popular media. It might also be argued that popular media could have a greater impact in motivating users to implement controls, because the risks might be viewed as having a real impact. This also says a lot about the manner in which students study and are able to apply theory to practice. When teaching information security, greater emphasis should be placed on practical examples, identification of risks and the real-life implementation of controls.

References

Cavoukian, A. & Tapscott, D. (2006). *Privacy and the Enterprise 2.0.* New Paradigm Learning Corporation. Retrieved from http://newparadigm.com/media/Privacy_and_ the_Enterprise_2.0.pdf.

Clearswift (2007a). *Content security 2.0: The impact of Web 2.0 on corporate security*. Retrieved from http://resources.clearswift.com/Externalcontent /Features/Clearswift/9586/200704SurveyReport_US_1063233.pdf.

Clearswift (2007b). *Demystifying Web 2.0*. Retrieved from http://resources.clearswift.com/ExternalContent/C12CUST/Clearswift/95 14/ 200707 DemystifyingWeb21].0_US_1062190.pdf.

Clearswift (2008). *Content security 2.0: The role of HR and IT in effectively managing the business benefits and risks of Web 2.0*. Retrieved from http://resources.clearswift.com/main/pages/Clearswift/RSRCCTR/ ContentDisplay.aspx?sid=3230&yid=2711.

D'Agostino. D. (Winter 2006). Security in the world of Web 2.0. *CIO Insight,* 12-15.

Fanning, E. (2007, 3 September). Security for Web 2.0. *Computerworld*, 44.

Fox, S., Rainie, L., Horrigan, J., Lenhart, A., Spooner, T. & Carter, C. (2000). *Trust and privacy online: Why Americans want to rewrite the rules.* Pew Internet & American Life Project: Washington, D. C. Retrieved from http://pewinternet.org/Reports/2000/Trust-and-Privacy-Online.aspx.

Guess, A. (2007) Students' 'evolving' use of technology. *INSIDE HIGHER ED*. Retrieved from http://www.insidehighered.com/news/2007/09/17/it.

Hampton, K., Goulet, L.S., Marlow, C. & Rainie, L. (2012). *Why most Facebook users get more than they give.* Pew Internet & American Life Project: Washington, D.C. Retrieved from http://www.pewinternet.org/Reports/2012/Facebook-users.aspx.

Horrigan, J. (2007). *A typology of information and communication users.* Pew Internet & American life Project. Retrieved from http://www.pewInternet.org/pdfs/PIP_ICT_Typology.pdf.

Lee, M. & Lan, Y. (2007). From Web 2.0 to conversational knowledge management: Towards collaborative intelligence. *Journal of Entrepreneurship Research*, 2(2), 47-62.

Lenhart, A. & Madden, M. (2007a). *Social networking websites and teens: An overview.* Pew Internet & American life Project, Retrieved from http://www.pewinternet.org/~/media//Files/Reports/2007/PIP_SNS_Data_ Memo_Jan_2007.pdf.

Lenhart, A. & Madden, M. (2007b). *Teens, privacy, and online social networks.* Pew Internet & American life Project. Retrieved from http://www.pewInternet.org/pdfs/PIPTeensPrivacySNSReport.pdf.

Mitchell, R. (2007, 26 March). Web 2.0 users open a box of security risks. *Computerworld*, 32.

Shin, D. (2008). Understanding purchasing behaviour in a virtual economy: Consumer behaviour involving currency in Web 2.0 communities. *Interacting with computers*, 20, 433-446.

Smith, A. (2011). *Why Americans use social media.* Pew Internet & American life Project. Retrieved from http://pewinternet.org/~/ media//Files/Reports/2011/ WhyAmericansUseSocialMedia.pdf.

Wikipedia. (2013).Web 2.0. *Wikipedia*. Retrieved from http://en.wikipedia.org/wiki/Web_2.

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