

# New Zealand-based students' perceptions and use of the internet as a communication tool and source of information

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**ABSTRACT:** In 2007 a pilot study in the form of a quantitative survey among New Zealand-based students was undertaken to determine their use and perceptions of the Internet as a communication tool and source of information and knowledge. While the topic is not necessarily “new”, ongoing research of this kind is deemed relevant given the rapid changes in the transference of information and knowledge, and the role communication plays in this. A few of the initial key findings are presented in this paper. The results provide insight into students' current perceptions and use of the Internet, compared to a small number of select other, more traditional information sources. Although several trends appear to be emerging from this research such as an age bias towards the use of the Internet, general use seems to be highly personal and varied, and appear to underscore research in other fields that point towards personality being a determining factor rather than age. An interesting finding was that perceptions of reliability and citing sources for academic work were frequently shaped by tutors and tutors' perceptions of source reliability, signifying the need for educational leadership from tutors to provide guidelines regarding the reliability of emerging sources such as podcasts, video podcasts (vidcasts), blogs and wikipages. Overall, this research raises several new and interesting questions, pointing the way for further in-depth research that could add to the body of knowledge of Communication.

**Key words:** Student perception, internet, information source, tool

## Introduction

The acquisition and sharing of information and creating meaning through the process of communication, is vital in the creation and transference of knowledge, and this process has been made faster, easier and within reach of the general population by the exponential growth of Information and Communication Technologies (ICTs). This is especially true for those ICTs that may be regarded as being non-traditional, brought to live largely in the Internet and the current emergence of what is termed the “social media” – a combination of user-generated information and social networking, often associated with the term “Web 2.0”.

The current generation is growing up with these communication and information sharing tools, and it is assumed that this might lead to changes in the communication, information-sharing and knowledge creating behaviour of this generation.

The BRANDchild 2003 study, for example, showed that 24% of tweens globally (8-14 at the time of the study)<sup>1</sup> used the Internet as a primary tool of communication, ahead of face-to-face communication (Lindstrom, 2004; <http://www.brandchild.com>). The study, which involved more than 600 people in 15 countries, also pointed out that 21% of these tweens indicated that making new friends was easier on the Internet.

Similarly, a 2005 research survey commissioned by Energy BBDO conducted in the U.S., China, Russia, France, Germany, Spain, Brazil, Mexico, Australia, Poland, Taiwan and India, resulted in a report titled “Genworld: The New generation of Global Teens”. The report used the term ‘SuperConnectors’ to describe the ‘new’ generation of 13-18 year old ‘connected’ teenagers, and pointed at the influence of communication tools like the Internet, mobile phones and instant messaging have on facilitating and influencing teenagers’ lifestyles and social networks. (Burns 2006: online.)

Such findings are largely corroborated by research conducted by Subrahmanyam and Lin (2007) who found that “[a]mong adolescents, the Internet has become indispensable for instrumental purposes such as school work and information gathering, as well as for communication purposes” (p. 659). Therefore, the Internet has become a key source of information required for knowledge creation.

Furthermore, the trend of non-traditional ICTs in displacing ‘older’ more traditional technologies such as television is further evidenced by a study conducted by the United States based National School Boards Association (NSBA) in association with Grunwald Associates LLC. This particular study showed that 9-17 year old students spent almost as much time socialising on the Web as what they spent watching television (Karlin 2007).

Findings such as these show that there is a clear shift in the perceived importance of traditional versus non-traditional ICTs as they relate to the contemporary ‘student’ generation. Such a shift also implies a change in how the Internet and associated media are used as well as the likelihood that such changes would precipitate a change in

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perception of their use and usefulness.

As the aforementioned studies have shown, the generation currently entering and participating in tertiary and pre-tertiary study is one that has effectively grown up with many of these ICTs, in particular the Internet, and it is often deemed as being more familiar with, and influenced by, these technologies. This has led to popular and mainly untested assumption that no or little guidance was required to guide this generation to the appropriate use and integration of these technologies with their daily study/work practices and lifestyles. While broad-based studies with a level of generic applicability have been undertaken, there is a dearth of research on the role that the Internet and associated technologies play in influencing perceptions and use that is directly applicable to the New Zealand 'student generation' context. This research of limited scope was subsequently undertaken to explore these aspects further with the purpose of identifying discernible patterns and trends that may be suited for further in-depth research, specifically within the context of information perceptions and use.

This research, which was a collaborative project undertaken during 2007 by researchers from the AUT University, Manukau Business School (MIT) and the University of Canterbury took into account not only selected traditional sources of information but also drew some initial comparisons between these and newer embodiments, such as those represented by the Internet and associated 'social media'.

An underlying supposition in this study is that by accessing certain Internet facilities and making use of e.g. online discussion forums, a user would engage in a process of communication and thus share his/her information, enabling others to create meaning and effectively create knowledge. In that context the Internet is not only a source of information but is consequently also a source of knowledge. How and when a user would engage in this communication process, would be determined by how they perceived the Internet: was it a source of entertainment or a source of information? Did they see it as a place to meet people or to simply search for information?

The research embodied in this study is based on two assumptions:

That it is important to investigate perceptions of knowledge in the contemporary technology-rich environment, given that such perceptions are likely to be different to those of historical precedent; and

that the first step in developing theories and practices that reflect current developments is to understand possible changes in perceptions of information and knowledge that represent society as a whole.

The study aimed to consequently identify a correlation or relationship between the perception of various uses of the Internet and the actual use thereof, specifically within the New Zealand context. In other words, the overarching question was: did perception affect the use of the available Internet technologies, and was this perception and/or use linked to age and gender?

## **Research method**

This cross-sectional 2007 pilot study combined both quantitative and qualitative elements and was centred on the design, processing and analysis of results from a questionnaire survey. The survey contained a combination of 27 open and closed questions, and was designed to test the respondents' perceptions of Internet use, their use of a selective number of information sources and their perceptions of the reliability of such sources within the academic environment, assuming that perceived reliability could be associated with use.

Low risk ethical approval was obtained from the AUT Ethics Committee as well as from the Ethics Committees of Manukau Institute of Technology and the University of Canterbury. After gaining feedback from a representative focus group to ensure that appropriate terms were used, the questionnaire was administered to a larger group of students based on a convenience sample.

SPSS, a statistical software package, was used to analyze and interpret the raw data from the survey, using a variety of descriptive and inferential statistical methods, such as the bivariate Pearson correlation coefficient, the independent samples T-test and Chi-Square correlations – depending on the parametric or non-parametric nature of the data.

A total of 100 respondents from AUT University, MIT and University of Canterbury participated in this survey. Of these, 42% of the respondents were from AUT University, 21% from the Manukau Business School and 35% from the University of Canterbury. Another 2% indicated that they were associated with another institution, such as the Southern Cross University (Australia). Students from various disciplines were surveyed, including Social Sciences, Communication, Information Technology and Business Studies, assuming that this would produce a fairly even gender distribution, given that a convenience sample was used. Unfortunately, the gender distribution among the respondents was still uneven with just over three-quarters (76%) female and 24% male.

## **Results**

### **Perceptions of the Internet**

To determine respondents' perceptions of the Internet as a source of information, entertainment and socialising, respondents were asked to rate statements about the Internet in terms of whether they agreed or disagreed with each particular statement, using a five-point Likert scale. On this scale, a score of 5 reflected strong agreement and a score of 1 strong disagreement. These results were then analyzed and ranked according to their means (see Table 1 below) and correlated with age, gender and Internet use. A high mean indicated high levels of agreement with the statement.

**Table 1: Perceptions of the Internet**

<b>Ranking</b>	<b>Statement</b>	<b>Mean</b>	<b>Standard Deviation</b>
1	The Internet is a source of information	4.59	0.514
2	The Internet is a place for research	4.41	0.639
3	The Internet is a source of entertainment	4.40	0.621
4	The Internet is a networking environment	4.08	0.769
5	The Internet is a place to connect with others and collaborate	4.03	0.735
6	The Internet is a place to conduct business	4.01	0.867
7	The Internet is a place to exchange ideas	4.01	0.802
8	The Internet is a place to shop	3.92	0.881
9	The Internet is a source of knowledge	3.77	1.008
10	The Internet is a place to meet people	3.53	1.024

Respondents generally agreed strongly that the Internet was a source of information, and thus indirectly a source of knowledge creation. Yet they were more neutral as to whether the Internet was a source of knowledge *per se*, signifying that they recognized intuitively that knowledge creation was a process that involved more than just sharing information.<sup>2</sup> It was interesting to note that the statement "The Internet is a place to meet people" rated the lowest in terms of agreement. While the mean indicates neutrality moving towards agreement, it did highlight that this generation did not appear to be as positive as Lindstrom (2004) leads one to believe about the Internet as being a viable alternative place to meet people.

### **Internet use**

#### ***Preferred language for surfing the Internet***

Language and culture are closely related. Consequently, surfing the Internet using other languages exposes respondents to alternative values and ideas, allowing them to communicate with alternative groups, and shaping their knowledge in unique ways. Therefore, knowing the language respondents used to surf the Internet was deemed important as it would have a direct impact on which websites they accessed as well as influencing their perceptions of the Internet.

Historically, the Internet has been dominated by English-speakers and in particular North American English, which culminated in the "Americanisation" of the

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Internet in the early days of its existence. Subsequently, a perception among more traditional cultures has developed that values shared on the Internet do not necessarily support their own values, and thus participation in social media has been sanctioned in many such communities. Research has shown, for instance, that communities such as the New Zealand Samoans are not supportive of their children and teenagers engaging in Internet activities. Rightly or wrongly, community elders perceive the Internet as eroding their own cultural values (Campbell & Pouesi, 2007).

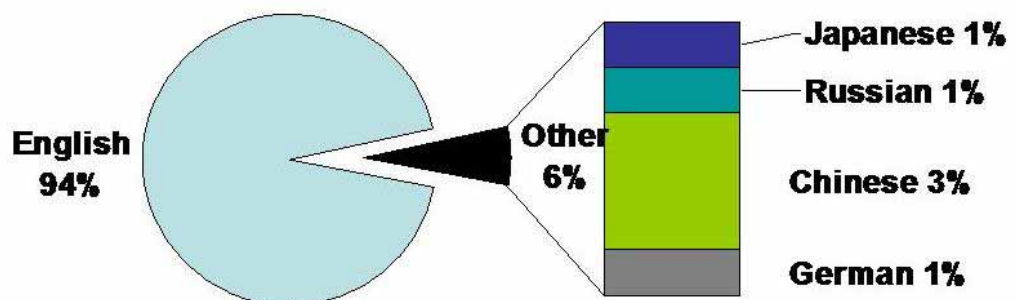
This perception is, however, a double-edged sword. While respondents may not be encouraged to engage in Internet activities and thus be exposed to alternative values, they are also restricted from sharing their own values in a growing social and online community.

According to the 2007 survey of the Internet World Stats, 30.1% of all Internet users use English as their preferred language, followed by Chinese (14.7%), Spanish (9%), Japanese (6.9%), French (5.1%), German (4.9%), Portuguese (4%), Arabic (3.7%), Korean (2.7%) and Italian (2.6%) respectively. The rest of the languages make up 16.3% of Internet users. (<http://www.internetworldstats.com/stats7.htm> )

These international findings were mimicked in the results of this localised research, although more respondents preferred to surf the Internet using English (94%) than the Internet World Stats survey indicated. This finding was hardly surprising given that most respondents were English speaking and the fact that the survey took place in a predominantly English speaking country, New Zealand.

The remaining six per cent of respondents indicated that they preferred to surf the Internet using primarily Chinese (3%) and German, Russian and Japanese (1% each) respectively (see Graph 1).

**Graph 1: Preferred language for surfing the Internet**

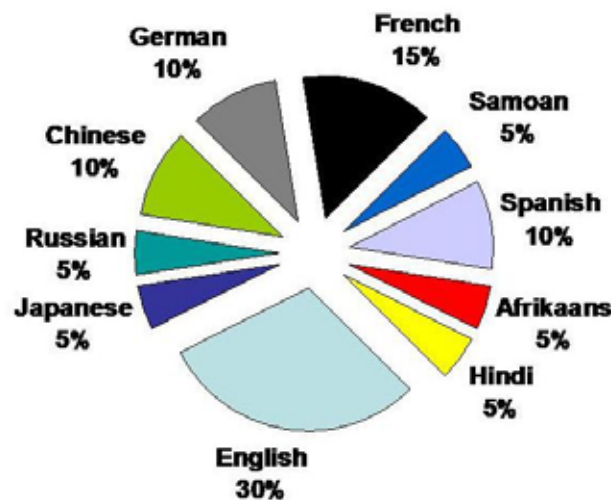


Respondents who surfed the Internet using second and third languages chose English as their main second language (30%), followed by French (15%), Chinese, German and Spanish (10% each) as well as Japanese, Russian, Samoan, Hindi and Afrikaans (5% each) (see Graph 2).

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It seemed, therefore, that the perception that the Internet is dominated by English still holds true, but there is also evidence of a willingness among respondents to use their language skills to find other material and expose them to—in many cases—their own cultures, maintaining connections and holding onto cultural values.

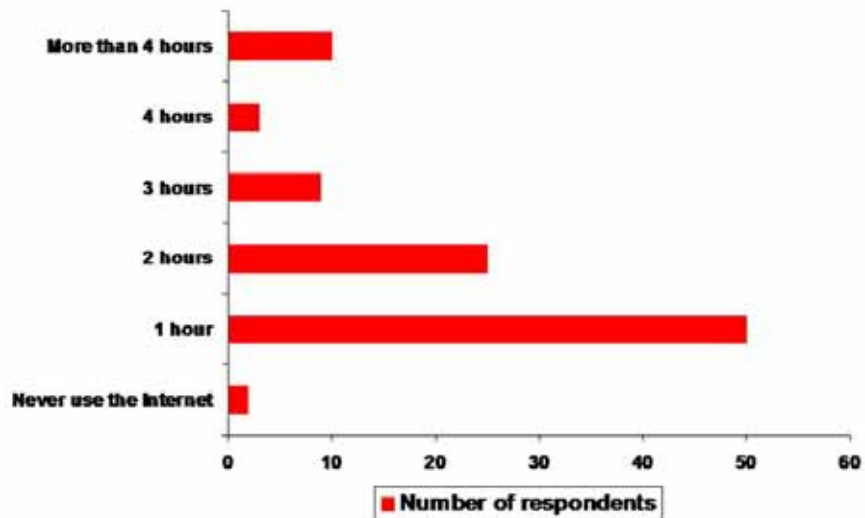
**Graph 2: Alternative language for surfing the Internet (second choice)**



### ***Time spent on the Internet***

Contrary to popular belief, these respondents did not spend their whole day surfing the Internet. Half of respondents limited their time on the Internet to one hour per day (50%) and a quarter (25%) indicated that they spent up to two hours a day surfing the Internet (See Graph 3). Two per cent of respondents claimed to never use the Internet, and several respondents indicated that it would vary, depending whether they had an assignment due or not. In presenting the results to a postgraduate group of students, the students commented that based on their experience it was unlikely that the time was spent in one sitting but rather that the hours would be accumulated over the period of a full day.

**Graph 3: Time spent on the Internet (Daily hours)**



Overall the results were not surprising if one were to take into account recent studies relating to personality and Internet use. McElroy, Hendrickson, Townsend and DeMarie (2007) point out that conscientious people are less likely to spend time on the Internet to engage in 'unproductive' activities, such as watching videos on YouTube. Since the respondents were all students – whether younger or more mature – one would expect a certain level of conscientiousness to be present.

Using a Chi-Square analysis for non-parametric data, a correlation between time spent on the Internet and live chat using a webcam was found (significant value of 0.007, where a value of less than 0.05 is deemed as significant and pointing towards a relationship), pointing towards a possible relationship between these two variables. The same significance value was found between time spent on the Internet and using the email facility, which corresponds with comments from a few respondents that they spent little time on the Internet and that their 'online' computer use was mainly for checking emails. A lesser significance value of 0.038 was found between searching for multimedia/music and time spent surfing the Internet as well as time spent on the Internet and searching for support groups (significance value of 0.039).

The research found no significant relationship between age and gender and the amount of time (hours) spent on the Internet. It is thus more likely that personality played a part in hours spent on the Internet rather than gender or age.

Overall, the hours of use had little impact on the respondents' actual use of the Internet, but it did seem to impact on their perceptions thereof. Taking into account that perceptions of the Internet as well as age influenced actual use of the Internet, it could be argued that age did have an indirect impact on hours spent on the Internet. For instance, the more hours respondents spent surfing the Internet, the more they were likely to view it as a place for exchanging ideas, and thus a social networking place, and *vice versa*.



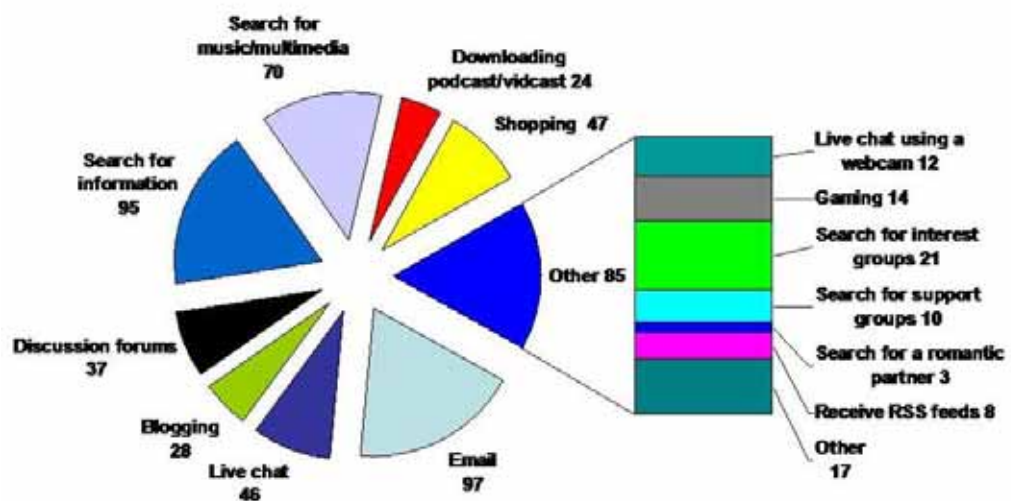
**Overall use of the Internet**

The overall use of the Internet was varied and highly personalized, confirming existing theories relating to the use of the media, such as Van Leuven's expectancy theory, in which he argues that the user selects the media and message for his own personally relevant purposes and subsequently attaches his own meaning to a selected message (Cutlip, Center & Broom, 2006). Thus, the user effectively creates his own knowledge based on the information he or she has sought out. This implies, therefore, that the user is ultimately in control of the knowledge he or she gains throughout life, setting the tone for future knowledge accumulation and 'lifelong-learning'. It also implies that knowledge attained in such a manner will be influenced to some extent by a level of perceptual 'bias'.

Arguably, the method of information sourcing has an impact on the type and quality of information to which the respondent is exposed to and as such would determine the quality of the knowledge created. The latter is particularly important in higher learning, where quality of knowledge should reflect quality of teaching and learning. To put this into context: accessing biased or subjective information, such as blogs, without providing information that juxtaposes this, is likely to lead to subjective and biased knowledge-creation where the validity of the knowledge may be questionable (notwithstanding associated epistemological considerations).

At the functional level, the three most common uses of the Internet were to: use it for searching for information (95%), sending and receiving emails (97%) and searching for multimedia/music (70%). These were followed by shopping (47%), live chat (46%), participating in/searching for discussion forums on topics of interest (37%), blogging (28%) and downloading podcasts or vیدcasts (24%). (See Graph 4).

**Graph 4: Overall use of the Internet**



***The Internet as a social networking place***

Using the Pearson's correlation coefficient analysis, a number of correlations were found between how respondents perceived the Internet and its use. For example, perceiving the Internet as a place to exchange ideas correlated positively with seeing the Internet as a place to meet people (Pearson correlation coefficient of 0.503 and significance value of 0.000, where a value of less than 0.05 indicates a strong linear relationship) and it being a networking environment (Pearson correlation coefficient of 0.465 and significance value of 0.000). In other words, respondents who felt that the Internet was a place to exchange ideas were also more likely to perceive the Internet as a place to meet people and it being a social setting. Respondents listed social networking sites such as Bebo and MySpace as "other" uses of the Internet. Bebo was particularly popular among younger respondents.

Respondents who perceived the Internet as a place to meet people were inclined to use the Internet for discussion forums on topics of interest as well as searching for interest groups. An independent samples T-test found a significant value of 0.000 between perceiving the Internet as a place to meet people and using discussion forums, and a significance value of 0.003 was found between the Internet as a place to meet people and searching for interest groups. In both cases the results indicated a possible relationship if equal variance between the variables is not assumed.

Not surprisingly, a similar relationship was found between using the Internet for discussion forums on topics of interest and perceiving it as being a place to exchange ideas, and thus a social networking place. In the latter case, a significance value of 0.005 was found, assuming that variances are equal among the variables.

If respondents perceived the Internet as a place to connect with others and collaborate, they were also likely to engage in online gaming. A significant value of 0.008 was found if equal variances are not assumed. This was particularly interesting in the light of the common perception that so-called "gamers" display anti-social behaviour, which is not necessarily the case. Many multiplayer games require individuals to engage in collaboration and associated social behaviours with others in order to complete 'quests' or reach objectives.

Furthermore, respondents who used the Internet for discussion forums on topics of interest were also likely to search for interest groups (Pearson correlation coefficient of 0.314 with significance value of 0.002) as well as support groups (Pearson correlation coefficient of 0.295 with significance value of 0.003). Respondents who were likely to search for interest groups were more likely to search for support groups. A Pearson correlation coefficient of 0.318 with a significance value of 0.001 was found between the latter two uses of the Internet.

***The Internet as a place to shop***

It was apparent that the Internet was not only perceived as a social networking place—it was also a place to conduct business and to shop. A significant relationship was found

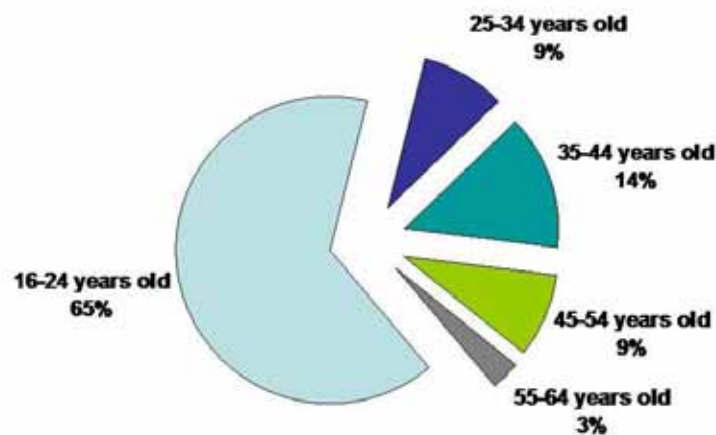
between perceiving the Internet as a place to shop and using it for shopping online. An independent samples T-test found a significance value of 0.000 between perceiving these two variables regardless of whether equal variances are assumed or not.

It was interesting to note that shopping online was not influenced by age or gender—it seemed that male and female of all ages shopped online. As with time spent on the Internet, personality may once again have a greater impact on shopping behaviour than gender or age.

### ***The impact of age***

Because of the large number of respondents in the 16-25 year age bracket (see graph 5), respondents were re-grouped into two major age groups: those under 25 years of age and those over 25 years of age in order to be able to identify trends.

**Graph 5: Overall use of the Internet**



It was hypothesized that with current technology reaching previously unseen potential, the “new generation” would be more technologically adept than those in the “older” age bracket as they were more likely to have grown up with access to these new technologies. A similar exercise was repeated by grouping respondents into two additional groupings: those under 35 years of age and those over 35 years of age. In both cases a T-test found differences between the age groups and their Internet use and perceptions thereof.

Age, for instance, played a role in perceiving the Internet as a source of entertainment. Those over 35 were less likely to view the Internet as a source of entertainment than those under 35. A significance value of 0.005 was found (if equal variances are assumed) using the independent samples T-test.

It would thus be fair to argue that respondents over 35 years of age used the

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Internet more as a functional (often work-related) tool than a social tool. This could be because many were introduced to the Internet through work-related activities whereas those under 25 were most likely introduced to the Internet at home, by friends or at school, allowing them to more freely associate the Internet with fun, entertainment and searching for information and thus shaping their perceptions differently.

A cross tabulation of age and using the Internet for live chat pointed towards another difference between these two age groups. Percentage-wise, for instance, those over the age of 35 were much less likely to use the Internet for live chat (23% compared to 55% of those younger than 35). In fact, for the age groupings under 35 years of age and over 35 years of age, the significance value was 0.003 if equal variances were not assumed.

Accordingly, it appeared that the older the person, the less likely they were to use the Internet for live chat, which is corroborated with real-life observations of school-going children and their use of e.g. chat facilities on popular convergence sites such as *Club Penguin*.

A correlation between age and downloading podcasts and videocasts was also found. For the 35 years of age-split, a significance value of 0.000 was found if equal variances were not assumed, possibly pointing towards those over 35 years of age being less likely to download podcasts and videocasts.

Currently, younger respondents were more likely to engage in these activities than the older respondents. In fact, none of respondents in the age group 35-44 downloaded podcasts or videocasts although just over half of this age group did search for music and multimedia online. It could be that older respondents were simply not that familiar with the newer technologies or had other interests that did not involve the Internet. It could also be that they didn't own an iPod or MP3 player and had no need to search for music or multimedia. It is possible that this gap may close as multimedia, MP3 and MP4 players become part of mainstream Internet use.

Age also had an impact on which sources of information and knowledge were viewed as reliable. A correlation between age and the perception of overall reliability of online and print newspapers/magazines was found. On further analysis it appeared that older respondents (those over 25 years of age) were inclined to rate print newspapers and magazines as more reliable whereas those under 25 years of age were more inclined to rate online newspapers and magazines as more reliable. The independent samples t-test indicated a relationship with age: a significance value of 0.008 was found between age and perceived overall reliability of online newspapers/magazines while a significance value of 0.001 between age and overall reliability of print newspapers/magazines was found. In both cases, equal variances were not assumed.

A first reaction to this finding is that reliability of online and print newspapers is a moot point since many reputable print magazines and newspapers have online versions and there should therefore not be any dissimilarity in reliability. However, there is a 'technologically-mediated' difference in reading experience and consequently

subsequent knowledge formation. Toolan (2001, pp 230-231) points out that:

The online version of any newspaper is inevitably different in content (including fewer and different accompanying advertisement) and format and reading experience than the print version. It is likely, too, that the sequence in which a reader 'samples' the linked screens of text, of the online version, is different, and less linear or even 'orderly', than in the case of the newsprint copy.

Older readers very often attempt to read the online version the same as the print version (Reisenwitz, Iyer, Kuhlmeier & Eastman, 2007), which is not possible as the online reading experience is often more fragmented, cryptic and perhaps even superficial. It is a form of reading with which the younger generation appears to be more comfortable. Thus, it can be hypothesised that they (younger generation) are less sceptical of online content, more familiar with cues that indicate a source's reliability and generally more familiar with the Internet, seeing it as more reliable and accessible, preferring it above other sources because of its ease of use and accessibility to other, related information.

### ***The impact of gender***

No significant correlations were found between gender and actual Internet use, and there were no discernible differences between male and female perceptions of the Internet even though weak correlations were found between gender and using live chat with a webcam as well as gaming. These findings may confirm common perceptions that males are more likely to engage in online gaming and females are more "social". However, this is purely speculative and requires further study as the research sample was numerically biased towards females thereby influencing validity.

### **Sources for academic work**

#### ***Citing sources for academic work***

As the use of information sources and the perceptions thereof for academic work has a direct impact on knowledge formation, respondents were asked to rate sources they accessed for academic work on a five point Likert scale with 1 indicating "never" and 5 indicating "all the time".

An analysis of the mean of each of these sources and students' responses indicated that academic/educational sites were by far the preferred sources for citing an academic work with a mean of 3.66 albeit not all the time (5 being the highest and 1 the lowest), followed by online academic journals with a mean of 3.54. Much more rarely cited were podcasts/vidcasts, blogs and wikipages, which seemed to correspond with the perceived lack of reliability of these sources.

**Table 2: Preferred citing of sources for academic work**

<b>Ranking</b>	<b>Preferred citing of sources</b>	<b>Mean</b>	<b>Standard deviation</b>
1	Educational/academic sites	3.66	1.051
2	Online academic journals	3.54	1.196
3	Online newspaper/magazine	3.40	1.174
4	Hard copy academic journals	3.24	1.329
5	Print newspaper/magazine	3.14	1.172
6	Google Scholar	2.95	1.504
7	Business sites	2.42	1.297
8	Wikipedia	2.41	1.384
9	Wikipages	1.93	1.215
10	Blogs	1.53	0.796
11	Podcasts/vidcasts	1.48	0.955

From the respondents' comments it was apparent that their choices were strongly influenced by their tutors, and it was also evident that they did not always agree with their tutors. A consistent bone of contention was the use of Wikipedia, which some felt was reliable, while others felt it wasn't – sometimes simply because their tutor had said so, citing the fact that “anyone can add information” to the site and that there is no “peer review”. A few lamented the fact that they were allowed to use Wikipedia at school but not at university, which seemed to point towards an incongruence in bridging respondents into university education. Many were unsure what "wikipages" referred to and put it into the same category as "Wikipedia".

Generally, respondents' views whether or not a source was reliable clearly determined whether they would use these for academic work. Not surprisingly, a positive correlation was found between seeing Wikipedia as reliable and citing wikipages for academic work (Pearson correlation coefficient of 0.359 with significance value of 0.001). A less significant correlation was also identified between viewing Wikipedia as reliable and using it as an academic source (Pearson correlation coefficient of 0.293 with significance value of 0.005). More significant was the relationship between citing Wikipedia and wikipages, with a Pearson correlation coefficient of 0.806 and a significance value of 0.000, indicating that there was the likelihood that respondents who cited wikipages would also cite Wikipedia for academic work.

Furthermore, if respondents perceived Wikipedia as reliable, they were also likely to view blogs and podcasts/vidcasts as reliable sources of knowledge. A Pearson correlation coefficient of 0.552 with significance value of 0.000 was found for the overall perceived reliability of Wikipedia and overall reliability of blogs. A similar result was found in the relationship between the perceived reliability of podcast/vidcasts and Wikipedia, with a Pearson correlation coefficient of 0.487 and a significance value of

0.000. These results may indicate a greater exposure to contemporary ICTs, reinforcing the belief in their reliability and relevance.

This is corroborated by the fact that the more time respondents spent on the Internet, the more likely they were to view Wikipedia as a reliable source (Pearson correlation coefficient of 0.294 with significance value of 0.004), and the more likely they were to cite from it for their academic work (Pearson correlation coefficient of 0.288 with significance value of 0.007). They were also more likely to cite from blogs (Pearson correlation coefficient of 0.324 with significance value of 0.002) and wikipages (Pearson correlation coefficient of 0.297 with significance value of 0.004). Thus, hours of Internet appeared to have some impact on how respondents perceived these knowledge sources.

In line with earlier findings about age groups and Internet use, respondents who used educational or academic sites were also likely to use online academic journals – more so than using hard copy academic journals (Pearson correlation coefficient of 0.534 with significance value of 0.000). One respondent commented that it was simply easier to access these journals online. The issue of easy access may thus be more pertinent than perceived reliability.

Overall, though, respondents used a diverse combination of sources when citing their academic work even though there appeared to be tendencies among the respondents to prefer certain sites or sources for academic work.

Respondents who were likely to cite a print newspaper were also likely to cite online newspapers (Pearson correlation coefficient of 0.455 with significance value of 0.000). In addition, respondents who were likely to cite from podcasts or vidcasts were also likely to cite from business sites (Pearson correlation coefficient of 0.310 with significance value of 0.004) and blogs (Pearson correlation coefficient of 0.419 with significance value of 0.000).

Another interesting finding was that respondents who viewed radio as reliable were also likely to view television as reliable (Pearson correlation coefficient of 0.607 with significance value of 0.000). Both are “traditional” sources of knowledge and information, having established a reputation for reliability, and both showed significant correlations of reliability with newspapers and magazines (online and print) and internet websites. All of these have established reputations of reliability.

### ***Overall reliability of sources***

In general, when asked to rank the overall perceived reliability of sources on a five point Likert scale of 5 being very reliable and 1 not reliable at all, respondents placed academic journals in the first position, rating it as very reliable and blogs as the least reliable source (see table 3).

**Table 3: Overall perceived reliability of sources**

<b>Ranking</b>	<b>Source</b>	<b>Mean</b>	<b>Standard deviation</b>
1	Academic journals (online/hard copy)	4.26	0.737
2	Print magazine/newspaper	3.93	0.781
3	Family member	3.83	0.850
4	Online newspaper/magazine	3.74	0.777
5	Television	3.68	0.820
6	Friend	3.57	0.812
7	Radio	3.54	0.762
8	Internet website	3.25	0.799
9	Wikipedia	2.51	1.072
10	Podcast/vidcast	2.06	0.955
11	Blog	1.96	0.824

### **Conclusions and recommendations**

Although this research is limited in scope, it appears to point to some discernible trends among New Zealand-based students. Firstly, there appeared to be a separation between generations (age) with regard to the use and perceived reliability of the Internet and various information sources. While there was general agreement that the Internet was a source of information and even entertainment, the “younger” respondents were more likely to associate the Internet with entertainment. The reliability of sources also appeared to be affected by age – a key example being the perceived difference in reliability of the online version of a newspaper vs. the printed newspaper version.

This separation may be the result of users' perceived differences between the more traditional, established sources vs. 'new' or 'emerging' ('non-traditional') ones. Familiarity and experience with information sources determines perceived reliability, and impacts on how these are used and valued as sources of information. Consequently, to ensure appropriate guidance, tutors will need to familiarize themselves with emerging sources and be more aware of their own perceptual frameworks.

Undoubtedly, podcasts, vidcasts, Wikipages and Wikipedia have not yet built a sound record of reliability and in some cases these sources fall short of conventional measurements of reliability. New or adjusted measurements of reliability will need to be researched. One such method may be the process of sanctioning (essentially peer review) by online communities when sharing information.

However, it also needs to be pointed out that a convergence between the various sources is taking place. Many newspapers, such as the New Zealand Herald, have blogs that provide social and political commentary while news organisations such as ABC



World News and CNN have daily news vidcasts – the latter being of the same quality as the television news broadcasts. In these cases, traditional measurements for reliability and credibility may apply.

As the convergence continues, many of the traditional sources may, over time, become redundant as they are superseded by new technological and socio-cultural developments. The extent of this shift and its impact on the next generation's perceptions is an area that needs to be studied in much more depth as it is likely to impact on current teaching and communication processes. Messages received through conventional or "traditional" channels may – in the long run – no longer have the desired effect. Consequently, industries such as public relations, advertising and marketing will need to take even more care in tailoring messages to their audiences.

If these changes are indeed occurring, the impact on society and communication would be far-reaching. It is thus vital that Communication researchers play a leading role in investigating such changes and their likely impact on society and industry. In order to adapt to and make the most of the rapid developments and changes taking place in this field it is strongly believed that a forward looking and pro-active approach is required, where the value of past precedent is recognised whilst at the same time the potential of new developments are realised.

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<sup>1</sup> The upper portion of these tweens would now be in the 16-24 years age group, i.e. 16-18 years of age.

<sup>2</sup> The authors assume that knowledge is created through a process of communication whereby meaning is attached to information, and understanding is achieved. The finding supports the intuitive distinction that people draw between information and knowledge – that knowledge is more than just information.

## References

- Bhatt, G.D. (2000.) Information dynamics, learning and knowledge creation in organizations. *The Learning Organization*, 7(2): 89-98.
- BRANDchild website. (2007). <http://brandchild.com> Accessed on 17 November 2007.
- Burns, E. 2006. *Worldwide Teen Generation Dubbed 'SuperConnectors'*. ClickZ Stats Demographics. March 10. Accessed online 27 May 2006 at <http://www.clickz.com/stats/sectors/demographics/article.php/3590801>
- Cutlip, S.M., Center, A.H. & Broom, G.M (2006). *Effective Public Relations*. (9<sup>th</sup> Ed.) Englewood Cliffs: Prentice Hall.
- Campbell, N. & Pouesi, D. (2007). *Samoan Immigrants and the Technology Age*. Paper presented at the New Zealand Communication Association conference, Napier, 5-7 December.

- Greenspan, R. (2003). *Hardware: Excessive Data Creates Digital Packrats*. 10/31/2003. Accessed online 1 November 2003 at [http://cyberatlas.internet.com/big\\_picture/hardware/article/0,,5921\\_3102011,00.html](http://cyberatlas.internet.com/big_picture/hardware/article/0,,5921_3102011,00.html).
- Internet World Users by Language. Top 10 Internet Languages - November 2007*. Internet World Stats. Usage and Populations Statistics. Retrieved from <http://www.internetworldstats.com/stats7.htm> on 26 March 2008.
- Karlin, S. (2007). Examining How Youths Interact Online. [www.eddigest.com](http://www.eddigest.com). December: 6-7
- Lang, J.C. (2001.) Managerial concerns in knowledge management. *Journal of Knowledge Management*, 5(1): 43-57.
- Lindstrom, M. (2004). Branding is no longer child's play! *Journal of Consumer Marketing*. 21(3): 175-182.
- McElroy, J.C., Hendrickson, A.R., Townsend, A.M. & DeMarie, S.M. (2007). Dispositional factor in Internet use: personality vs. cognitive style. *MIS Quarterly*. 31(4): 809-820.
- MobileMan Glossary. (2007). <http://mobileman.projects.supsi.ch/glossary.html> Accessed on 16 November 2007.
- Reisenwitz, T., Iyer, R., Kuhlmeier, D.B. & Eastman, J.K. (2007). The elderly's internet usage: an updated look. *Journal of Consumer Marketing*. 24(7): 406-418.
- Subrahmanyam, K. & Lin, G. (2007). Adolescents on the net: Internet use and well-being. *Adolescence*. Winter 42(168): 659-672.
- Toolan, M. (2001). *Narrative. A critical linguistic introduction*. (2nd Ed.) London: Routledge.

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