

BUS 2302 Information Technology and the Business Student Assignment #1 – Digital Planet



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Purpose:

As the wise Albert Einstein once said, “It has become appallingly obvious that our technology has exceeded our humanity.” (Brainy Quote. (2001-2015)). I find this extremely true. I think that in many ways people use the different technology we have today as a means of getting things done the fastest way possible with the least amount of brain power. If the machine can do it for me, why should I bother doing it? Or my computer is amazing and I could not live without it, so therefore it doesn’t make sense that, I sitting in front of this amazing piece of machinery can cause back problems or carpal tunnel; that must have come from being active. My absolute favourite, “I just got this iPhone 5 a couple months ago, but they just came out with the iPhone 6 so I am going to get the iPhone 6 because the iPhone 5 is such old technology.”

These ways of thinking is what lead to me wanting to investigate the awareness a sample of the population have regarding the technology we use and how it impacts our day to day lives.

The areas I was looking at researching dealt with three overall topics. The topics included: health risks with extensive computer use, negative effects of computers on the environment and emerging technology for input, output and user verification. When I was investigating these areas, I broke the topics down to more specific focus categories.

Health risks of extensive computer use:

- Ergonomics
- Bodily discomfort
- Length of time associated with computer related injuries
- Continuous effect of computer related injuries

Negative Effects of Computers on the Environment:

- Recycling
- Monetary value of goods disposed of
- Dangerous materials involved

Input, Output and User Verification:

- New input methods causing different physical ailments
- Input/ user verification methods used in society
- Emerging technologies for user verification/ identifying differences between input, output and user verification devices

With these areas I am hoping to get an overall understanding of whether or not people have a grasp on the overall impact that computers play on our bodies, society and our future or if people just concentrate on the fact that they are just objects in our lives that they just accept and not put more thought into them than that.

Method:

When I looked at the population I wanted to survey, I made sure to look at a few determinates. First area is that I wanted everyone to be adult (between the ages of 20-50). I made sure to have an even mix of people. Half of the people I surveyed I wanted to have grown up without too much use of computers and technology at their disposal. They would be the people that would remember before the use of computers and how much it has changed the world we live in. The other half I wanted to be similar to me, that most of their schooling and growing up at least had a computer to their disposal. I also wanted to make sure that I got a mix of males and females in my survey population. I thought that maybe there would be a possibility of a difference between the results between the two genders.

The population I used was through my Facebook friends in order to get a mix of the population that I wanted for the survey. When I got permission to administer the survey, I emailed them the word document and got them to reply by email with their answers. I found this an appropriate format to use since they would need to use some form of technology in order to do the survey. Plus, I figured it may make them aware of the impact that technology has on our society now as well.

Survey:

Technology Awareness Survey ** Correct Answers in BOLD**

- 1) New _____ technology is increasing user discomfort during computer use due to awkward body positioning.
 - a. Brainwave
 - b. ECG
 - c. Mouse pad
 - d. Touchscreen**
 - e. Tablet

- 2) Law enforcement has used a technology called _____ to identify individuals in public with extraordinary reliability.
 - a. Behaviour- recognition
 - b. Motion- recognition
 - c. Facial-recognition**
 - d. Sight- recognition

- 3) Within the first year of computer-based careers, what percentage of employees developed computer related injuries?
 - a. 25%
 - b. 65%
 - c. 15%
 - d. 55%**
 - e. 85%

- 4) How much of electronic waste is currently recycled?
 - a. 7.25%
 - b. 29.5%
 - c. 12.5%**
 - d. 41.5%
 - e. 59.5%

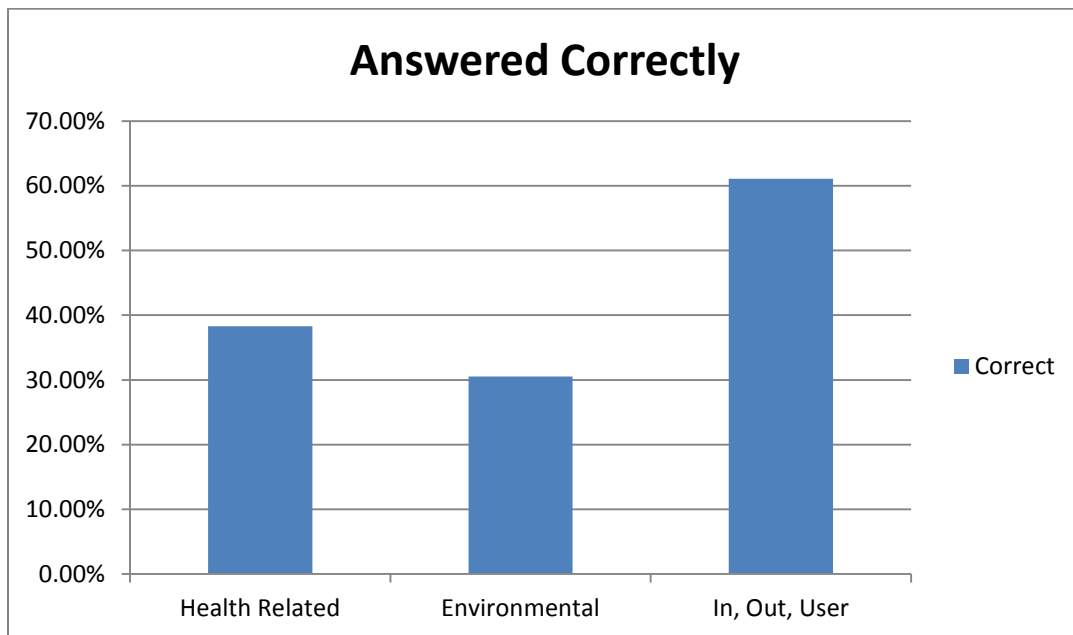
- 5) Each year, Americans dump cell phones into the waste containing what price amount of gold and silver?
 - a. \$500 thousand
 - b. \$20 Million
 - c. \$1.2 billion
 - d. \$60 Million**
 - e. \$125 Million

- 6) There are many items/ solutions available to reduce the amount of computer related injuries. Statistics show that which percentage of people suffering from lower back pain in relation to computer use did not use available adjustable backrests?
- a. 10%
 - b. 90%
 - c. 20%
 - d. 50%**
 - e. 80%
- 7) Which of the following are user verifications?
- a. Retinal Scans**
 - b. USB drive
 - c. Fingerprint**
 - d. Password**
 - e. Touchscreen
- 8) You could be affected by the computer health risks if you spend about ____ hours or more everyday on a computer.
- a. 6
 - b. 2
 - c. 4**
 - d. 8
 - e. 10
- 9) The production and disposable of electronic devices is dangerous for the environment for many reasons. For just one computer and monitor to be produced it takes what amount of each of the following materials?
- a. 11 lbs of fossil fuel, 8 lbs of chemicals, and 100 litres of water
 - b. 1244 lbs of fossil fuel, 823 lbs of chemicals, and 12.5 tons of water
 - c. 269 lbs of fossil fuel, 28 lbs of chemicals, and .5 tons of water
 - d. 539 lbs of fossil fuel, 48 lbs of chemicals, and 1.5 tons of water**
 - e. 763 lbs of fossil fuel, 16 lbs of chemicals, and 1250 litres of water
- 10) Along with musculoskeletal disorder, fatigue, weight gain, stress, carpal tunnel, etc. vision problems and eye-strain has been linked to computer/ electronic use. The percentage of adults between 20-50 that experience computer related vision problems and eye-strain on a daily basis is:
- a. 20%
 - b. 90%
 - c. 40%
 - d. 70%**
 - e. 10%

Analysis:

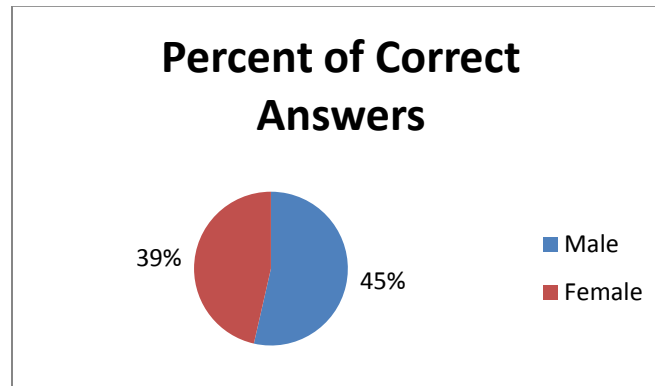
Topics:

The graph below shows the categories of questions along with the percentages of correct answers. From this information we can see that the population surveyed has a broader understanding/ concept of the different types of input, output and user verification. The reason for this I believe is because this type of information is at our finger tips on a daily basis and it more widely used or reported about in current affairs/ media ventures. When looking at this chart it is easy to see that people do not have a clear understanding of the health and environmental effects that computer use and disposal has on our wellbeing and planet.



Gender Comparison:

The following graph is a quick display of the comparison between the two genders studied. As we can see from the percentages of correct answers for each gender there was not much variation between the results (only 6%) therefore there would not be anything significant to conclude regarding each gender's knowledge on the subject matter.

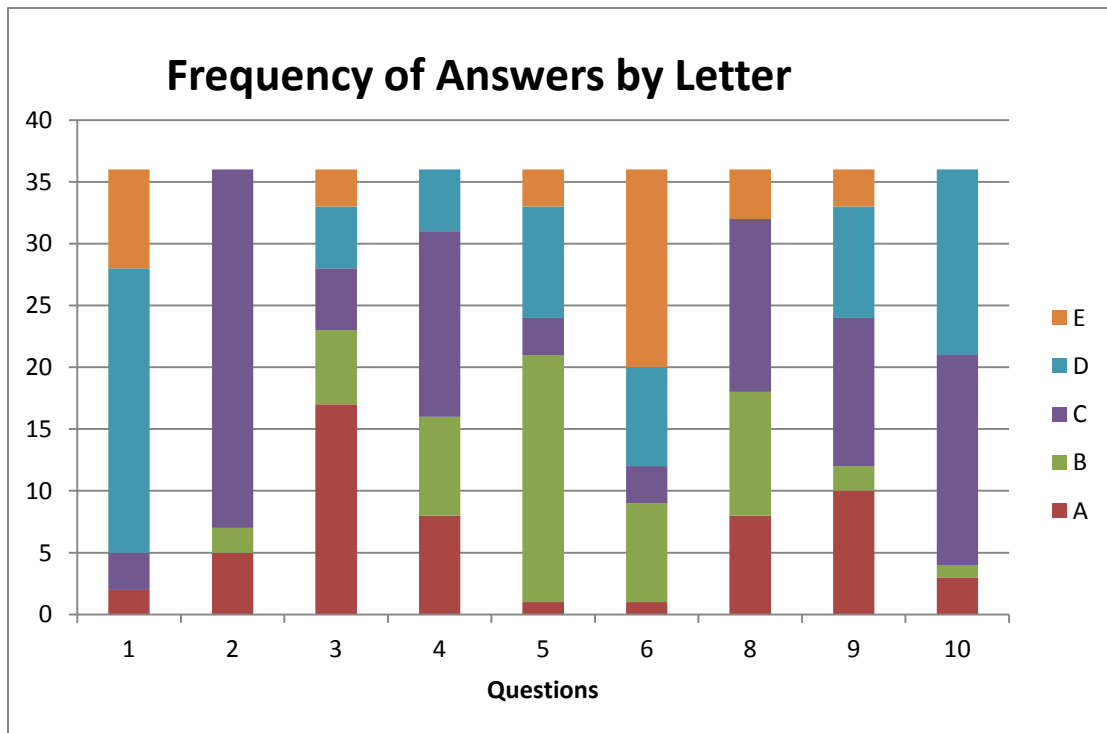


Number Comparison:

As the following chart shows there was a large variance in some of the questions and answers. This allows us to see when there seemed to be a clearer consensus about some of the answers due to the population studied having the same understanding on the material being questioned.

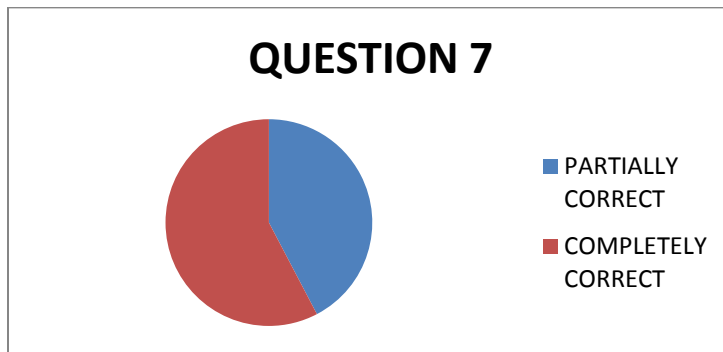
If you look at question 1 and 2 there was overall a draw to people for answering the correct answer. On the other end of the spectrum you see that with most of the other questions there was not an overall understanding of what the answer was. This shows that many people are not as informed in these areas of this topic as they seemed to be for the other questions. When evaluating this material, the calculation that best represented this was the range. This number showed the variance between the lowest number and the maximum number. Since the range was a larger number it was evident that the majority of the participants have an understanding of the related topic. I also removed question 7 from the following table due to the multiple answer question.

QUESTIONS	A	B	C	D	E	Mean	Median	Mode	Min Number	Max Number	Range
1	2	0	3	23	8	7.2	3	#N/A	0	23	23
2	5	2	29	0	0	7.2	2	0	0	29	29
3	17	6	5	5	3	7.2	5	5	3	17	14
4	8	8	15	5	0	7.2	8	8	0	15	15
5	1	20	3	9	3	7.2	3	3	1	20	19
6	1	8	3	8	16	7.2	8	8	1	16	15
8	8	10	14	0	4	7.2	8	#N/A	0	14	14
9	10	2	12	9	3	7.2	9	#N/A	2	12	10
10	3	1	17	15	0	7.2	3	#N/A	0	17	17



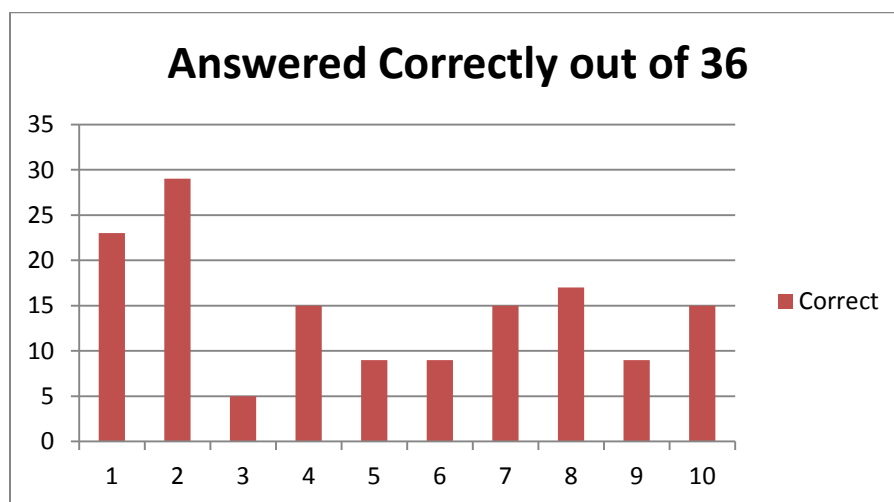
Question 7: Multiple Answer

When looking individually at question 7, technically everyone had an understanding of the different types of user verification. The only comparison I looked at here is people who selected all three correct options versus those who only selected one of the three. It was hard to make a distinction on right versus wrong because everyone got the correct answer, just some were more correct than others.



Question Comparison:

The following graph is a representation of how many of each question was answered correctly. The most correct answers had to do with current technology (aka touchscreen devices) and common technology used in "police/ detective programs" (facial recognition). The questions that seemed to have the most incorrect answers were ones dealing with



Conclusion:

In conclusion, the results of my survey as shown above suggest what I believed to be true. Many of today's adults, and possibly children, take advantage of the technology at our fingertips without considering the impact it all has on both our health and the environment. Many people keep up to date on the different advancements, such as the touch screen technology and facial recognition technology as shown above, but many fall short in the knowledge of how little electronics are recycled and how much our musculoskeletal, eyes and stress levels are being impacted by computers and other technical devices. For myself, I find it scary to think that within 10 to 15 years we have come to the scary statistics which were shown in my survey, I would/ will hate to see what our environment and health will be like in 20-50 years to come. I am happy that the results do show that approximately 1/3 of the population has some knowledge and understanding of the detrimental effects of computer use, but I am hoping that there will be more reports and statistics on these issues brought to a head in the media and also within gyms, doctor's offices, cities, and town disposal notices in order for the population to take these areas more seriously.

I found it extremely ironic that so many people were able to pick up on the fact that retinal scans are a form of user verification when most of the population would never use this in our daily lives for signing into computers/ devices. I think this shows that a lot of computer/ technology knowledge are coming from movies/ TV shows instead of our own day to day life. The main challenge I found when doing this assignment was that the information that I wanted to survey and questions I wanted to ask were somewhat hard to evaluate and compare to each other. I did find some ways since I was evaluating three different topics and found other ways to compare results. I found the best way to understand the results were from the graphs. It gives a

nice picture of the relationship between some things but also the massive differences between others.

If I was to reconduct this survey, I may have worded some of my questions differently and had them less factual and broader on the topics. The other thing I would like to see is if the results are different with relation to how the results are received (by email vs in person/on paper). I would like to see if it makes a difference with the use of technology vs without.

*Our technological powers increase, but the side effects
and potential hazards also escalate.*

Alvin Toffler (Notable Quotes)

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