

The World's Technological Capacity to Store, Compute and Communicate information that has already been created and does not need to be done again – 2012



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On the weekend, I was doing some casual research on how much data there is in the world, and where it all goes.

I came across some really great research and an interesting white paper entitled 'Methodological and Statistical Background on The World's Technological Capacity to Store, Communicate and Compute Information 2012', by Priscila López and Martin Hilbert. The paper covers everything from the storage of data on film, paper, data tapes, and optical media right through to camera memory cards, phones and solid state media. A truly riveting 302 pages of graphs and charts with statistics of every conceivable data storage medium dating from the 1960s to present day.

I would provide the link to the article, but only the nerdiest of readers would want to peruse it, and 95% of those readers (all two of them) would want to look it up and download it – so they can create a new piece of information that immediately makes the hard work of the above authors out of date (actually – see the end of this article for the link).

As I was reading the statistics in this article, it made me think back to all of the times that I have seen data get created multiple times for the same project, more often than not simply because of poor data management systems. Unfortunately, the Lopez/Hilbert paper did not cover anything on how much of the world's data was actually created in error, so here is my own paper entitled 'The World's Technological Capacity to Store,

Compute and Communicate information that has already been created and does not need to be done again – 2012', by Guy C. Holmes. Please note the absence of 'Methodological and Statistical' in the title.

I wrote a similar article on unnecessary data duplication back in 2007, so technically this very paper meets the criteria of something that expresses the concept quite vividly – life imitating art, or something along those lines. Why am I re-writing this article? The main reason is that throughout my 15+ years in the data management industry, I've had the opportunity to bear witness to some pretty extreme, and often ridiculous, examples of data duplication.

One particular example that comes to mind is the large multinational mining company doing survey work in South America. They had just completed a tender review for getting an airborne magnetic survey over a 1200 km² area flown and the award of the tender was imminent. However, somewhere else in the world in an office more than 4000 km away, a junior gung-ho geoscientist was looking at the corporate GIS data management system and discovered that much of the airborne survey outlined in the GIS system had been turned to transparent lines, making them very difficult (impossible really) to see. He casually changed them to black lines and went about continuing to search TripAdvisor.Com for his next vacation and getaway.

That casual change of line colour now revealed that a survey had already been flown over that same area in South America. Not only already flown, but the original survey was larger in scale, and done with higher specs than the one just about to be awarded.

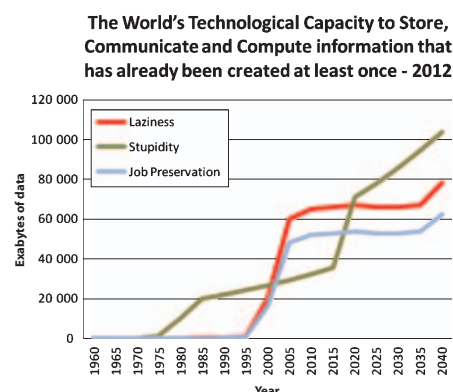
Using the same concept as Lopez/Hilbert introduced in their article referenced above, I will now introduce some of my own observations and statistics, breaking down the reasons for redundant data creation (or unnecessary data duplication) into their three main categories:

1. **Data re-created due to laziness** – Data that was re-created because the

individual involved was too lazy to look for the existing data, or too lazy to put what they did create into a system so that others could find it and not have to re-create it themselves.

2. **Data re-created due to stupidity** – Data that was created because someone was stupid.
3. **Data re-created to stay employed** – This is data that was re-created so that someone could justify their existence, their budget and keep their job. The data was similar enough to the original data set to be pretty much the same, but 'different' enough that the person was able to justify their time to recreate it and hence remain gainfully employed (i.e., someone spent time changing fonts and the colours in a graph or spreadsheet).

Through extensive research and lengthy interviews with Mabel, my spritely 81-year-old next door neighbour, Bazza, a young but dubious-looking guy that likes to hang out in front of my local BP service station, and a focus group of 4 year olds at the local kindergarten, I have compiled the following statistics:



As you can see from the data above, there is a very clear correlation and trend between all three categories. Some key observations and interesting things to note:

1. People seem to fluctuate between being lazy and stupid approximately every 20 years. It was unclear from my research if this was generational, or caused by some external factor such as changes in the Earth's four cycle biorhythm or horoscopes and astronomical phenomenon, as

suggested by Mabel. Bazza from the BP petrol station said that he had never had a job, so he could only pass comment on lazy and stupid. Given that stupidity was overtaken by laziness during the turn of the millennium, I surmise that it may in fact be generational – Generation Y?

2. In general, people were too lazy to preserve their job, and too stupid to know that the data they were duplicating could well have saved them from redundancy if they had just drawn it out a little longer.
3. It is expected that the level of stupidity in the work force will increase dramatically from 2020 onwards, due to most of my colleagues leaving the workforce and the introduction of the eyePad 7. The emergence of Generation Z into the workforce at this point in time might also be responsible for the sharp statistical incline (or

decline – depending on how you look at it).

Now removing the tongue from the confines of my cheek, with the introduction of streamlined and easy to access data management systems to preserve and access data, should mean that we see a dramatic decrease in unnecessary data re-creation and duplication. People should be able to locate and access existing data and manipulate and re-process it to create enhanced, value-added data sets that enable organisations to improve their productivity, commercial opportunities and ultimately their bottom line.

I used the word ‘should’ because sadly, even in today’s technological and digital age, the most advanced systems don’t decrease the level of laziness and stupidity in the population. In fact there is some evidence that they increase both.

So, a few tips:

1. If you have a document control system – use it. An extra 10 minutes in that system will save days, probably weeks, of work.
2. Talk to the long-term employees in your company – they will probably know if something has already been created, where to find it, and probably how to create an extra few weeks work for yourself for job preservation purposes along the way.
3. If you think that someone must have already done the same work you are doing before you started – you are probably right.
4. Retire in 2019. The stupidity curve is about to go into a steep incline.

Link to article <http://www.martinhilbert.net/LopezHilbertSupportAppendix2012.pdf>

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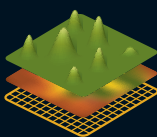
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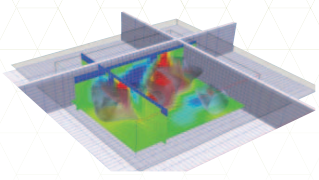


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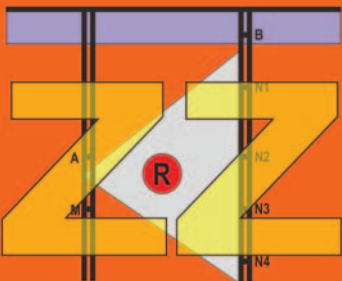
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17–19 Sep	Istanbul 2012: Istanbul International Geophysical Conference and Oil & Gas Exhibition http://www.igcistanbul.com	Istanbul	Turkey
19–21 Sep	KSEG International Symposium on ‘Geophysics for Discovery and Exploration’ http://2012symp.seg.or.kr	Jeju	Republic of Korea
October		2012	
8–10 Oct	ATCE 2012: Unconventional Wisdom: SPE Annual Technical Conference and Exhibition http://www.spe.org/atce/2012	San Antonio, Texas	USA
29–31 Oct	KazGeo 2012 http://www.eage.org	Almaty	Kazakhstan
November		2012	
4–9 Nov	SEG International Exposition and 82nd Annual Meeting http://www.seg.org	Las Vegas	USA
December		2012	
3–7 Dec	AGU Fall Meeting 2012 http://fallmeeting.agu.org/2012	San Francisco, California	USA
3–5 Dec	Arctic Technology Conference http://www.seg.org	Houston Tx	USA
March		2013	
17–21 Mar	SAGEEP 2013 http://www.eegs.org/AnnualMeetingSAGEEP/SAGEEP2013.aspx	Denver, Colorado	USA
26–28 Mar	International Petroleum Technology Conference http://www.iptcnet.org/2013	Beijing	China
June		2013	
10–13 Jun	London 2013: 75th EAGE Conference & Exhibition incorporating SPE EUROPEC2013 http://www.eage.org	London	UK
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11–14 Aug	ASEG-PESA 2013: 23rd International Geophysical Conference and Exhibition http://www.aseg-pesa2013.com.au	Melbourne	Australia
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