

# Information Overload

September 23, 2014/[0 Comments](#)/in [Product Data Intelligence](#) /by [Chris Jones](#)

Psychologist George Miller in 1956, published a paper that concluded you can only pay attention to Seven ( $\pm 2$ ) items at a time, so a maximum of nine. More recently, Nelson Cowan from the University of Missouri establish that the real number is probably closer to four.

Four items at any one time. Four (4).

According to studies in America in 2011, Americans digested five times as much information every day as they did in 1986. And even on a leisure day we now process an average of 100,000 words per day.

Just to throw another staggering statistic your way, it is widely known that we are now producing 2.5 Quintillion bytes of data per day, and that 90% of the world's digital information has been created in just the last two years.

Endless data. Four items at any one time.

Imagine walking into your house with the groceries, keys, the mail in your hand and a coat to hang up when suddenly the phone rings. You stop what you're doing, put your keys down and answer the phone. Studies have shown that you will probably not remember where you placed the keys since you've had more than four items to pay attention to. Four items at any one time.



It seems stifling to think what we can only really pay attention to four things at any given time when realistically, especially in the work environment, we are expected to remain on top of everything. In today's global workplace, particularly in the manufacturing industry, people are expected to coordinate data coming from multiple sources, and then make meaningful decisions based on the information before them. It is impossible to expect the average worker to coordinate this information successfully without suffering from overload.

Consider the Exxon Valdez spill in the Gulf, for example. This catastrophe was caused by people who were overworked, sleep deprived, over tasked, and at the limits of their attentional capacity.

Neurologist have discovered that we don't actually do two or three things at the same time, but move from one single task to another in a serial manner. But even this switching between tasks comes at a cost. Each time we shift attention from one task to another, there is a metabolic cost we pay in glucose. This switching between tasks is one of the most expensive brain activities we encounter.

Now consider all of these aspects within a modern manufacturing facility. When one is trying to absorb and coordinate information coming from a plethora of different data sources all while being expected to do more than any other time in the past, it is easy to understand why the decision process is so complex, not to mention tiring.

Realistically, the only way forward is for computer solutions to take away the more mundane tasks of collating the information and presenting it to the decision maker in an easy to understand logical format. Technology has provided us with the means to capture endless data, but how helpful is it when you're having to rely on too many different sources? How often do you find yourself with multiple copies of Excel spreadsheets opened on your laptop as you copy and paste between them to try and make sense of the information being presented? This approach clearly has its limits.

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Unfortunately, most solutions available in the market today take the big data route of trying to swallow the elephant whole. Taking the “four items at any one time” approach, a far more pragmatic solution is to assess the information that is really needed and extract these nuggets away from data noise and present them in a meaningful way that will allow you to make better, faster decisions.

Take a moment to think about the data you rely on. Now think about where it comes from. What if data from all those sources was automatically available from one location, in near real time? Actify have develop systems that allow you to view information coming from multiple databases. This isn't about replicating information into one master database, as some solution providers suggest, but using a balance between extracting information and pointing to information so that one can obtain a unified view.



Spreadsheets



Cloud-based apps



3-D CAD



Data warehouse



On premise



Databases

Historically known as a CAD viewing company, Actify understands that when it comes to a manufacturing company's product information, it is often defined within a 3D CAD system. 3D systems are probably the most complex of databases that contain some of the most important information to a manufacturing company. That is why we focus on treating your 3D CAD systems as another data source. Our knowledge with CAD has helped to shape our Product Data Intelligence solutions, understanding that it is imperative for a manufacturing company that this information is made available along with information coming from other internal and external systems.

Pulling information from multiple databases and merging relevant information together in mash-ups to provide a single view significantly helps people to make informed decisions.

As we discussed earlier in the paper, it is impossible for people to bounce seamlessly between different applications whilst retaining information from each in an effort to join the dots. As the amount of data continues to grow the problem of having a holistic view is becoming more of a challenge.

Without the aid of Actify's Product Data Intelligence solutions, decision-making becomes harder and harder.

How is your company dealing with the information overload?