# Telecom Analytics – Beauty is in the Eye of the Beholder

by John Myers
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Never underestimate the ability to "wow" people by sorting things differently than you have in the past. You can have quick wins without doing super things.

In the world of business intelligence, there are VERY broad definitions of certain concepts. For example, what is "reporting"? Some think that it is "just" pixel perfect presentation of information. Others consider the most elaborate of dashboards and interactive metrics to be simply "reporting" from existing data sources.

Another one of these broad concepts is "analytics." What exactly constitutes analytics? Ken Rudin at LucidEra defined analytics as follows:

"Anything that someone doesn't already know about their data and/or situation can be considered analytics."

With deference to the PhDs in white lab coats, Rudin's definition is a pretty fair one. The value in analytics is not related to the amount of processing or complexity of the analysis. The value, and thus the definition, of analytics comes from the value to the audience and the impact that information has to an organization.

**Moving Down the Path**

If you are going to talk about the wide definition of analytics, one should start with a look at the processing continuum of analytics on data. This can range from simple contextual sorting to advanced analytical and predictive modeling.

On the lower end of the spectrum, taking data and turning it into information can be as easy as performing a simple calculation and sorting either highest to lowest or lowest to highest. You can also use techniques like Pareto charts to provide insight on 80/20 rule questions. Using these techniques, you could determine the top five sales by customer or region. You can also determine which 20% of customers represent 80% of customer service requests/calls/inquiries.

While the ability to place data into context does not seem to be an earth-shattering revelation, you would be amazed at how many organizations find great value in these

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types of analytical presentations. Also, remember the data warehousing industry started with the ability to answer relatively simple yet hard to answer questions like, "How many employees are employed by an organization?"

Beyond simple context is the ability to provide analytics on the domains and ranges of data to gain the information/knowledge that users are looking for. This is where you can lose the attention of some with overly burdensome talk of statistical measures and information. However, being able to show the average number of contact points before a sale takes places gives those in both sales (where the data resides) and marketing (who may not have access to the information) an appreciation for either length and engagement of a sales cycle or the effectiveness of a marketing campaign as compared to past campaigns.

The next stage is to start taking data and running it through analysis and predictive mathematical models. This moves the analytics to a stage where most analytical audience members do not understand the process (*yet, many analytical professionals can argue over the process …*). But they definitely enjoy the results of the analysis. In this, analytics move beyond what someone might be able to do with simple tools like Excel or Access for relatively small datasets. The results of these advanced analytics require additional knowledge of data preparation, processing and analytical models. However, the advanced value is definitely worth the additional effort, particularly if you can provide those results in a time frame appropriate to business decisions – be that real time, near real time, or within a particular billing cycle.

**Don't Shoot the Messenger**

Along with the analytical processing continuum, the next concept to consider is how you present your information to your audience or your messaging choice. Many consider these choices as being reporting or dashboarding. However, the messaging choices for analytics should be looked at more for their "appeal" or adoption within the organization than the choice of technology application.

Gaining a lot of traction in the Web 2.0 and Enterprise 2.0 communities is a concept presented by Malcolm Gladwell in his book *Blink*. In *Blink*, Malcolm discussed the concept that the "mass opinion" can give you great insight into the accuracy of data or information. Often, this is presented as how many people view a page or download an application. In that respect, you can tell a lot about the value of the analytical information being presented…even if the information is "flawed" or possibly incorrect. If many people gain value or find value in the presentation, that value should be respected.

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Analytics at various blog rating engines is a perfect example. While there are blogs with great information, there are many with questionable information, but great response. The blog rating analytics reflect the overall organizational and cultural "adoption" value, but not necessarily accuracy value.

Next from this "mass appeal" level is placing the information in specific or "rigid" constructs. This can provide information or value derived from precise reporting standards. SEC mandated financial reports are wonderful examples of these. The form and format of the presentation helps to provide overall context to the analytic audience. The ability to compare cash flows between publicly traded firms is a good example.

But these formats can sometimes constrain the additional value of the information if there are "interesting" pieces of knowledge that have been derived from either predictive or analytical models. For example, understanding the type and nature of debt in the form of liabilities on a balance sheet can be "encapsulated" from the analytical audience due to the aggregate nature of the format (*any examples of that in, say, the mortgage industry?*).

Another method of presenting information is to display the information without bias or editing. This is probably the truest format for analytical display. However, it has its disadvantages – in particular if the data portrays a process or stakeholder in a negative light or standing. In this, it helps to be an unbiased provider of the information or be viewed a neutral third party between the stakeholders of the data.

With so many organizations or departments using "agenda spin" to present information, it can be difficult to be viewed as unbiased, and thus without an agenda, when presenting analytical information. This type of "reputation" takes a lot of relationship building within the organization and a long time to build.

**Telecom Application**

The business intelligence and data warehousing organization of a telecommunications service provider has both opportunities and challenges across all of these areas analytical and messaging areas. They have opportunities in the way that data is analyzed and presented, but they also have challenges in that the business models for telecoms are rapidly changing and the business intelligence organization must be prepared to move with the requirements of their user community.

With massive amounts of data, you have the opportunity to do a simple sort and provide unheard of and/or unknown analysis. A great example is the one at Time Warner Cable

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in New York . By sorting by customer instead of by network element or switch, Time Warner was able to determine that 50% of their network traffic was generated by just 5% of their customer base. In doing this, Time Warner was able to gain great value and potential revenue generation opportunities.

However, large data sets also have the opportunity for greater background analysis via data mining:

"Hey we have 20TBs of usage data this month… what can we determine?"

This type of open-ended question can cause issues for a telecom business intelligence organization since often, the data does not fit into the specific "information molds" (similar to financial reports), of the stakeholders who requested the analysis. This also is a slippery slope that many telecom business intelligence organizations can slide down. Yes, the data can support the best of analytical models, but the devil is in the details for such efforts since "quick wins" are often more important than precise results.

**Wow**

The telecom business intelligence organization needs to understand that there is an analytics maturity model. Users of analytics move from one level to the next based on the maturity of the audience and their point in the model.

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