Taming the Ever Elusive Data Monster

An Imperative of Asset Management

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“Utilities face many challenges”. This is an understatement. For managers and executives in a utility, this is what’s referred to as a MOTO – Master of the Obvious. For statements such as this, there is no actual problem identified, so a real solution producing results is unlikely – if not impossible. In reality, utility managers and executives are searching out the answers to far more elusive, and well defined (and sometimes not yet discovered), problems. So what is it, really, that utilities want? Just as with any organization with an enormous asset base and substantial activities in operations and maintenance – management desires efficiency. After all, the more efficient an organization becomes, the better the bottom line – increased value for the Stakeholders.

With a plethora of solutions available to meet the seemingly never ending demands utilities face every day, the number of methods and applications used to meet those solutions are just as abundant. And overwhelming. Recently, there has been a surge throughout North America’s utility spectrum toward effective and efficient management of critical assets throughout the asset lifecycle. Utilities at the leading edge of this surge have made aggressive moves toward major transformations in asset management solutions. There is a wide variance in this pursuit – from instituting minor changes in how specific asset classes are managed all the way to achieving ISO 55001 Certification in Asset Management, and beyond. Regardless of the end game, some of the most daunting and significant tasks utilities are faced with in this realm is development of real solutions based on actual data that will meet, or exceed, the intended objectives of the organization. That’s a lot of words to define, in a nutshell, improved efficiency.

A major transformation in Asset Management requires a complex, multi-dimensional, approach that will reach every department in the utility across a multitude of domains. There are policies and strategies that need to be developed, there are a range of different plans that require an abundance of resources to cultivate and implement, capital and O&M budgeting processes require review and revision, risk and performance management objectives will need to be re-aligned to meet the new objectives defined in the strategic plans, and a wide variety of other issues will require attention and resolution. So, what is the most difficult of these challenges to overcome? Once a utility gets through the “culture shift” (as is the most difficult issue to overcome with any major transformation), the answer to this question is undoubtedly data analytics.
Analyzing information and making decisions based on assumptions (or worse yet, BAD data) is a path that can lead to a very dark and forbidding tunnel that seemingly has no end. Circular reasoning will be experienced across many a meeting table or conference room – resulting in, well, “unresults”. That is a made up word to mean “you may think you have the right answer, but you really don’t”.

So taking action, and making decisions regarding assets, based on these “unresults”, will most assuredly lead deeper and deeper down the tunnel of no return. But there is hope!

First and foremost, a thorough and realistic assessment must be made to attain a comprehensive understanding of where the organization stands with regard to numerous facets of asset related data and information. One of the most important elements of data analytics is knowing (more importantly, understanding!) what you don’t know. In other words, understand the current state, have a realistic expectation of what your future state looks like, and then figure out the best methodology to bridge the gap. Sounds easy, right?

Of course, determining how to bridge the gap is where the real work begins. In terms of data, it can be broken down into two major areas/initiatives. The first (and most important to get started!) is determining what data is needed to effectively manage an asset from a lifecycle perspective: engineering/design, construction and commissioning, maintaining and operating the asset class, and on through decommissioning/disposal. The “If you can’t measure it, you can’t improve it” (Peter Drucker) principle applies here. Once you identify the data being collected and measured, and are effectively communicating the results of the data measurement, improvements in efficiency and asset performance will naturally follow.

The second major initiative is what to do with the information once it is determined what should be collected (more to come on this later). Clearly, this is a simplistic concept for a complex solution. However, breaking it down in this manner will ensure the technology applications necessary to conduct the analytics meets the needs of the utility to make the most effective decisions when it comes to the total asset lifecycle.

There is another vital element to be considered – do not wait until you have perfect data to start analyzing for effective solutions! This may seem counter to the entire point being made here. However, the process must start somewhere. The most important element in this regard is to ensure there is a mutual understanding of the assumptions made due to the lack of quality data available - by all stakeholders and interested parties. It can actually be more beneficial to just get the train moving, regardless of how slow or how far it goes, even without knowing the destination; then to sit and wait at the train station, burning fuel at idle. A solid and realistic roadmap for development should overtly recognize this pitfall and plan accordingly.
The need to translate the complexities of asset information into decision making criteria that produces results has resulted in UMS Group’s development of several analytical decision support tools; empowering the decision maker with the ability to harness the power of information and data. When utilized as part of an asset management transformation (or even independently applied), these solutions will provide asset managers and service providers with the information they need to make informed decisions based on actual data. Even where no previous data may have existed for critical assets, once collection commences from multiple sources, results of the analysis are almost immediate.

**OPx Analytics Dashboard**

OPx, or Operational Performance Analytics, is UMS Group’s decision support application that integrates work order management, asset management and time tracking systems to provide deep visibility into operations that enable managers to translate information into effective decisions. OPx delivers timely analytics, visualization and reporting for executives, managers and supervisors across the utility. OPx identifies best practices and provides an easily navigable platform to improve workforce productivity. This is a vital component in the overall scheme of effective asset management and will provide key information in the Asset Management Transformation journey.

One other vital aspect in effectively managing assets is to identify and measure the condition of critical assets throughout the organization. Understanding asset condition is a crucial element in making asset related decisions based on risk to the organization’s fundamental values and objectives. UMS Group’s AERO (Asset Economic Risk Optimization) is an analytical solution that evaluates asset health, intervention
costs, consequences of failure and other information in order to determine the optimal time for asset replacement or intervention. Ultimately, this analysis will enable improved, defensible capital spending decisions for assets across the entire organization.

As a manager of assets and information (which applies to just about everyone in the utility industry), understanding the two pronged approach in data analytics described above is just the start of using data to effectively manage assets. An Asset Management Transformation is a journey and many of the intended outcomes may not be realized for years down the road. However, with the right solution in place to analyze data and make informed decisions, utilities can be assured they are well on their way to improved efficiency and effective management of critical assets throughout the organization.

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