Myths and Realities in Asset Management

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The concept of asset management has been around in utilities long enough now to have developed some myths (false notions) as well as some realities (lessons learned). Here are a few key examples from what is becoming a sizeable list.

Myth #1: Asset management is about cutting costs

Reality # 1: Asset management is about optimizing cost and performance

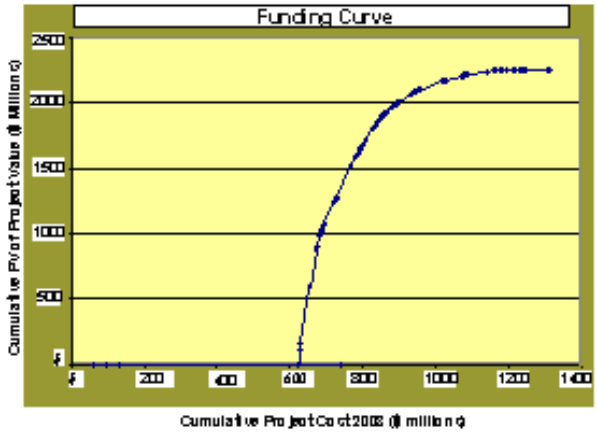
Coming as it did (in the US) on the heels of the wave of business process re-engineering, which itself promised breakthrough improvements in cost and performance, asset management was touted as a method which, when applied to budgets, would give rise to substantial savings. So much so, in fact, that it would be worth spending some money on various start-up costs associated with the concept, i.e., hiring new managers, obtaining new knowledge through seminars, on-site visits, consulting, etc., in order to reap the benefits promised by the concept of asset management.

In some organizations, once the initial effort and cost had been expended, the promised savings were sought, which often came from large budget cuts that were said to be justified by an asset management approach but which in many cases merely allowed deterioration of reliability and service quality for a few years before it became noticeable.

The real breakthrough was the ability to optimize across a range of different programs, from tree-trimming and pole inspection to substation capacity and maintenance, in such a way that one knew with some confidence what it would cost to achieve a given level of performance and over what period of time. Generally, this was best accomplished by a model of some sort, which might be nothing more than a few well-constructed spreadsheets, that showed each program in terms of its 'bang per buck', i.e., improvement in reliability per dollar spent, and included an aspect of diminishing returns

to each, so that they could be optimized by varying the levels of each. With each program varying optimally, one is able to trace out an envelope curve or possibilities frontier showing how much reliability could be had at various optimized levels of spending (Figure 1)

Figure 1 – Typical Funding Curve for Project Prioritization



While there is a lot more to asset management than this classic funding curve, yet it is not too much to say that this is its symbolic centerpiece and the main engine that drives much of what asset management is meant to do. It needs, of course, to be paired with a clear consideration of what customers and regulators expect regarding reliability and cost, as well as what milestones in the regulatory process are likely to afford an opportunity to align the optimal program with the regulatory framework. But there would be no sensible communication to be had with customers and regulators if it did not start with the kind of insight and confidence achieved by developing a valid funding curve that facilitates discussion about what point to choose on a continuum of cost and performance.

Myth #2: Achieving asset management can be accomplished by buying new software

Reality #2: The organization probably already has the basic transactions software it needs to do asset management. What is needed is a decision-analytic approach that will highlight a few areas for improved data quality.

Unfortunately, a common knee-jerk management reaction to any business process problem is to buy new software, and there is no shortage of software salesmen promising that their new version will have a button that can be pressed to give the right answer. One of the key insights learned from applying a decision-analytic framework to solving business problems is that if you start by asking the right question and then

carefully explore what data already exists, you often find that there is already enough information to make good decisions – it just wasn't obvious without the framework.

A perfect example in this context is failure codes on substation equipment. The industry is struggling with the right way to implement a maintenance management system, be it SAP, Indus, Maximo, Cascade, etc. They all allow you to count corrective maintenance instances or to accumulate cost by type of equipment, and they have the fields that could be used to do good failure analysis, but they rarely are coded in such a way that the failure can be related to the true root cause – is the corrective maintenance just topping up the air or gas in a breaker? Did the mechanism fail to latch due to wear, improper lubrication, or some other cause? Sometimes the only way to get the insight required is to manually peruse comment fields – not exactly getting answers at the press of a button.

Of course, most of these systems are meant more to manage work volumes rather than to seek insight, i.e. they are transactional systems, not analytical systems. The key is to identify the decisions that need to be made, e.g., when and where to maintain or replace assets, and then see what data are needed to make good decisions that will be robust under a variety of circumstances.

Myth #3: Asset management requires organizational change

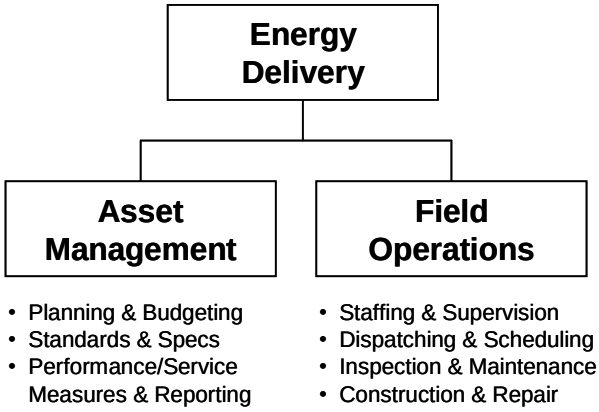
Reality #3: Asset management requires behavioral change, with or without changing the organization, titles, centralization, etc.

One of the ways in which some management consultants appear to cause change is to recommend organizational changes. Obviously, changing the organization is one way to send a clear message to all involved that senior management wants behavior to change, but it is just as clear that it is no guarantee that the same people will not play the same unproductive games and role-playing even with new titles. If you change the title of the chief engineer to Vice President of Asset Management, does he/she still ask for more money to improve reliability every chance he/she gets? Do you have to change the title to get the required behavior?

Of course, one of the main reasons for the organizational separation of asset management and resource management (see Figure 2) is that it makes it easier to acquire new territory and/or outsource fieldwork to new contractors. In some countries, notably in those which acknowledge Queen Elizabeth II as at least a titular sovereign, it has been popular to literally break up the organization into two corporate entities. In US companies, it has been common for Asset Management to be a centralized function while field management was allowed to be close to the customer (and equally important, given the state-by-state nature of ratemaking in the US, close to the

regulator). Clearly, the idea of having the asset management organization write the work and information requirements in the form of clear service agreements between separate organizations can be effective for communication, whether or not the organizations are actually distinct.

Figure 2 Typical Organizational Implementation of Asset Management



There are a few utilities in the US that had such a bad experience with their first taste of asset management (often just cost-cutting in masquerade), that they virtually banned the use of the term for a spell, e.g., Commonwealth Edison, NSTAR. In some such organizations, we find the old-fashioned Engineering Department re-emerging as the place from which centralized control is exercised over decentralized field operations. Clearly, there is a role for the centralized asset management organization – if nothing else, so as not to send ten regional people to national and international conventions of narrow subject matter experts. But at the same time, in today's electronic age there is probably no reason why the subject matter experts on transformers or on underground cable have to be sitting in the corporate headquarters building. We all have enough experience with virtual organizations to know that dotted lines can work as well as solid lines if the people know that team behavior is expected of them and silo thinking is not appreciated.

Myth #4: Asset management is needed to address the issue of aging infrastructure

Reality #4: Asset management may be the answer, but aging infrastructure is not the right question! There are some very old assets that are performing very well and some young ones that are not. The issue is poorly-performing assets and their trends, by type of asset.

And so on. As the industry gains more experience with implementation of the concept of asset management, we can hope that lessons learned crowd out false notions.