

Turning Enterprise Asset Management into Real Earnings Per Share

by Robert DiStefano and Scott McWilliams, Emerson Process Management

The Situation

Over the past decade, many corporate performance improvement programs have been initiated: Business processes re-engineered, enterprise resource planning systems implemented, shared services organizations formed, etc. Some of these programs delivered the expected benefits, others did not. During that time, it was not uncommon for Enterprise Asset Management (EAM) programs (both formal and informal programs) to remain in the hands of a “technical” executive, such as the Senior Vice President of Operations. However, with “The Street” continuing to demand ever improving performance and the marketplace as competitive as ever, CEOs are putting continuous pressure on the CFO/CAOs (Chief Financial Officer and Chief Administrative Officer) to find new ways to cut costs and improve bottom line performance. We all know that cutting costs alone will not allow for sustainable performance improvement. However, with a well constructed EAM program, there is a path to improved earnings. Not by using cost cutting as the primary driver to achieve, but by increasing asset efficiency which leads to reduced cost (cost cutting as a by-product if you will.) As a result, EAM is no longer being relegated to the “technical” executives and is more and more being driven by the CFO/CAOs.

Before we go any further, we should establish a common definition of EAM. EAM is a holistic way of approaching the integrated management of three primary components: Supply chain management, Work management and reliability, and Marketing of asset throughput. Of course the underlying support structure for these components, as well as all of the enterprise functions, is a well designed and maintained enterprise-wide data architecture. Specifically with regards to EAM, this includes master item data, asset data and operational performance data which provide timely and accurate managerial information to decision makers from across the enterprise.

The Challenges

While EAM has become a recognized way to help enable the results an asset intensive company wants to achieve, it is also acknowledged that designing and implementing a EAM is not easy: There are multiple skill sets required that are rarely found in-house or even within a single professional services firm, the price tag can be very large, the cultural change requirements can be described as nothing short of transformational, the implementation risk is often too significant to accept and the business case returns often require years to realize. All of this doesn't bode well for a company that is trying to satisfy the immediate demands of the market stakeholders.

Naturally, many companies turn to their trusted and tested business advisors, the management consultant, for a recommended EAM solution. After all, these are the same advisors that have successfully implemented other performance improvement programs that have helped the companies meet their previous goals. The caution that is being discovered (and we in the Reliability industry have known this for years) is that this cannot be done simply with managerial consulting resources. This solution requires a complementary level of technical expertise. While the managerial consulting firms can extract significant value from the supply chain, they normally do not have the technical knowledge to link individual parts to specific assets thereby ensuring the parts in inventory are indeed the right parts to have. Or while they can design enterprise-wide common processes and sub-processes around work management and reliability (everyone understands predictive versus reactive) they rely on client-side staff to design to the detailed tasks and activities (staff that does not have access to the "best practices" learned from the cross-client experience reliability consultants have attained.) Or while they can implement a new computerized maintenance management system and convert all the historical data from the legacy systems, rarely can they enhance that data so that it is meaningful and actionable (e.g., populating primary field data on items or creating bills of materials for critical assets.)

The business case for a full EAM program will often show a very healthy return for the company – whether measured by internal rate of return (IRR), net present value (NPV), Simple Pay Back (SPB) or other internally preferred measure. However, the price tag (which can run into the mid eight figures for the entire program), the requirement for significant internal resources to help successfully overcome the cultural transformation (adoption rate is directly proportional to the full-time internal resource participation rate during the engagement) and the implementation duration make the risk of approving such a program unpalatable for many.

There are ways to address the above challenges, but they require an education from and partnership with us in the reliability business. We, as a collective market intermediary, can work with the managerial consultants and our clients to design solutions that can minimize and mitigate the identified risks through the use of smaller, foundational engagements - each providing financial return independent of the overall EAM program.

In order for us to begin this effort, we need to first address a few of the paradigms that exist in the reliability industry today. First, our vocabulary... We like to use terms like OEE, RAV and "maintenance and reliability." CFO/CAOs and many managerial consultants do not know what OEE is; they do know what uptime and downtime are. RAV is not a financial term taught to you in MBA school; ROA is. And, we know this is heresy, but "maintenance and reliability" is something handled by "non-business technical types" for whom the CFO/CAO doesn't know or concern themselves; business performance is managed by business people. So if we want the CFO/CAO to spend money on our services, we need to sell them those services using their own terminology.

Second, we must start to think first in terms of the business problems and drive to a technical solution versus starting with the right technical solution and finding the business problem to solve. In business, the right solution may not be the best technical solution. The right solution is, however, the best technical solution given the current business constraints and objectives (such as financial limits, industry or regulatory requirements, competitor positioning, merger and acquisition strategies, etc.) while not prohibiting technical advancement at a later time.

While not a lot of time is spent above diving into the paradigm issues, we caution you to consider them deeply. Regardless of the real or perceived limits of the managerial consultants with regards to EAM, these consultants are deft at communicating with the C-level executives. This communication is not just an understanding of the proper vocabulary, but equally important positioning of potential solutions against the business goals and objectives of the company so that the buying of the proposed solution is "easy" for the client. Our collective challenge is to learn this skill and it starts with the introspective and critical look at the paradigms identified above.

The Opportunity

The objective of a C-level executive is to maximize shareholder value. Essentially, that is his or her sole purpose. Therefore, the line-of-sight between EAM initiatives and impacts on shareholder value needs to be clear and concise at all times. Where previously an “engineering” view of the problem and solution could be taken, an “economic” view is necessary when dealing with a top executive. The most practical and readily understood proxy for shareholder value, given the subject at hand, is Return on Assets (ROA). While volumes can be written and debated on shareholder value measurement, and certainly earnings per share (EPS) is the most widely accepted measurement reported, again given our topic - asset optimization - there should be little argument that ROA is an acceptable proxy for shareholder value. Furthermore, if we consider the definition of ROA for a moment, we see that an increase in ROA (Net Income divided by the average Total Assets – See figure 1 below) may, and most likely will, lead to an increase in earnings thereby positively impacting the widely reported and discussed EPS.

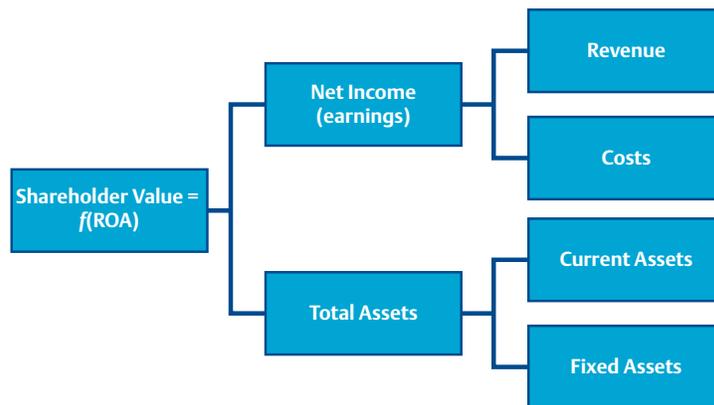


Figure 1: ROA decomposition

With the above in mind, if we generically examine a company’s ROA position relative to their industry peers, we can quickly determine who might benefit from EAM (a detailed comparison of the ROA components can lead directly to which EAM threads a prospect might benefit from as well.) And once identified, we can equally as quick determine what would be the impact on shareholder value if that example prospect were able to move their ROA up to industry average. Assuming that the prospect has already gone through a supply chain optimization program (therefore the materials and items components of their current assets has been improved) and they are not in a serial acquisition/divestiture mode (therefore their fixed asset base is remaining relatively stable), an improvement in ROA will, by definition, be an increase in Net Income (easily agreed to as an increase in throughput and reduction in operating costs due to sound reliability or EAM practices) thereby improving EPS.

Let us turn our attention to a real example in the Food & Beverage industry. Figure 2 below shows a ROA comparison of several peers in the industry. If we take a closer look at Company G¹, we see that they are in no way the “worst” performer of the group with regards to ROA, but they still have room to improve relative to the group average. Based on their 2005 results (as reported in their 2006 Annual Report), the achieved ROA was 4.93% versus the industry average of 5.56%. Total net income was \$719MM, average current assets were \$5,839.5MM, and average total assets were \$14,589.5MM. The EPS (Basic or non-diluted) was equal to \$0.91. Using the above thought process and assumptions, if ROA was able to be improved to the industry average by leveraging a solid EAM strategy and implementation, net income could potentially increase by as much as \$92MM (assuming the company was able to market their additional throughput based on the marginal cost to produce. If not, then an alternate strategy of asset divestiture might be a viable strategy.) EPS (assuming a constant P/E) could become approximately \$1.03 per non-diluted common share. Given this type of improvement opportunity, it stands to reason that a healthy business case could be made to implement an EAM program.

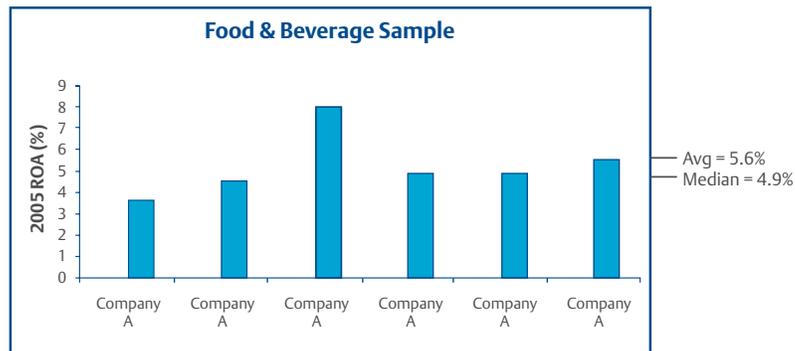


Figure 2: ROA comparison of peer group

The Pragmatic Approach

As mentioned earlier, while EAM programs can show a very good return on investment, there are many risks and challenges facing the approval and implementation process. If we fail to recognize and address these challenges, we will continue to be able to hold our heads high in that we have the right technical solution for our clients, but we will do so without as many corporate level EAM engagements as we would like. So, we must not only design a pragmatic way to approach EAM in order to address the “first cost” and “time to achieve” issues, but we must also show that each step in the approach has a positive impact on the ROA (as well as meets the company specific investment thresholds) and establishes a base upon which to built towards the overall EAM program.

Let’s return to our example Company G. If we were able to discuss the sub-average ROA performance of the company with the C-level executives, we might reasonably find out that they do not have the level of data (measured both in terms of quantity and quality) to properly answer the questions that would reveal the root cause of the performance issue. Thus, the first step in the proposed pragmatic approach to EAM is to properly and fully address the underlying data.

While undertaking a data project is no small feat, it is a palatable project that can show immediate impact on ROA. Through the standardization of the items data, our experience has shown a company can realistically achieve a 10% reduction in required MRO inventory levels. In our example, this equates to an approximate \$34MM² reduction in current asset requirements. Furthermore, through the improved integrity of the asset data, our experience shows that a company can realistically achieve an increase in productivity (CFO/CAO term...wrench-time – our term) of approximately 45 minutes per maintenance personnel. Again, in our example of a company that has 1000 maintenance employees³ that equates to a productivity improvement of approximately \$7.2M. Taken collectively, this one project has the potential of improving ROA to 4.99%. Not only does this small engagement provide a healthy return to shareholders, its cost is manageable and it provides the foundational building block for the entire EAM program. Therefore, if the client stopped here and never instituted EAM, the company would have implemented a “no regret” engagement.

Once the data architecture has been cleansed and standardized, attention can be focused on the optimization of the supply chain. Efforts to do this without addressing data integrity first will result in sub-optimal improvement. Process improvement (see high level supply chain process map in figure 3) can only be achieved if the right systems and data are available for operational and managerial decision making.

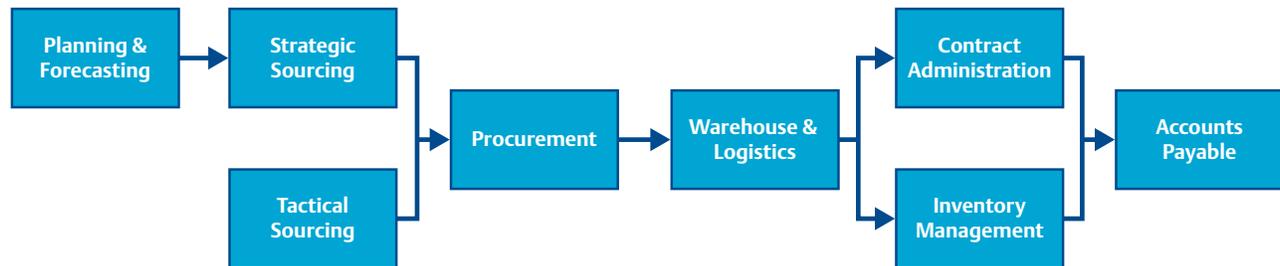


Figure 3: Generic supply chain process map

Moving to an enterprise approach around SCM is a significant undertaking. It will require cultural change, common processes and common technology platforms. However, it is an engagement that can show value to the shareholder independent of the overall EAM program. And again, value cannot be fully extracted until the detailed links back to the fixed asset base can be achieved, thus requiring the technical expertise provided by the reliability consultants. An improvement in the supply chain productivity enabled by increased data integrity, common processes and common platforms can result, based on our experience, in improvements equivalent to approximately 5% of the MRO spend. Putting that in terms of our example company, that could equate to approximately \$17MM in net income improvement, or, alternatively stated, a potential cumulative increase in ROA to 5.11%. Beyond the financial benefit associated with this step, there is now becoming a routine participation in the engagements by the internal resources. These resources are becoming your “internal champions” that will continue to communicate and inform the rest of the organization not only of the benefits associated with his particular engagement, but equally important how it relates to the overall EAM program.

When we have the foundational data architecture established and the supply chain optimized, we are now ready to focus on core reliability improvement. However, a prospect may still not be ready to undertake a full enterprise-wide program. Various alternative methods can be used to address this, but for the purposes of this paper, we will assume a pilot program approach is acceptable. This program will address a single plant in terms of the work management, planning and scheduling and maintenance practices. A critical component of the pilot program is to have participation from all the plants (of interest...participation may not be only human resources, but they could have a financial participation as well by jointly supporting the cost to implement and the financial benefits that result, performance appraisals of plant managers can be linked to the success of the pilot, etc.) This will provide the engagement with the opportunity to design and validate common processes across the enterprise. There is, of course, a requirement that executive management not only sponsors this course of action, but fully embraces it.

If we apply our expertise at a single plant, with the participation of the other plants, we can routinely increase uptime by 10%. If we assume, for our example, that the plants operate at a 92% commercial availability rate, this improvement in uptime equates to about 70 hours of incremental uptime. Furthermore, if we assume a product gross margin on 1 hour of production to be equal to \$100k/hour, this improvement would result in approximately \$7MM per year per plant in increased net income⁴. Additional improvement of approximately \$4.7MM⁵ can be achieved through improved maintenance practices such as reduced energy costs, increased safety, efficient and effective planning and scheduling, staff training, use of PdM and Condition Based Monitoring technologies, etc. Expanding the pilot program to all 5 plants, we can then realize an additional \$28MM in net income due to increase throughput capabilities.

Cumulatively, we have demonstrated a net income improvement potential for Company G of \$63.9MM and a reduction in total assets of \$34MM resulting in an improvement of ROA from 4.93% to 5.38%. With regards to earnings per share, this would equate to an approximately \$0.08/non-diluted share increase. By any measure, this approach clearly demonstrates a path to increased shareholder value by breaking the overall EAM program into manageable phases. Phases sized to minimize the risk and increase the probability of adoption and overall corporate success.

Conclusion

EAM programs can show significant shareholder value, but can be a daunting undertaking regardless of your perspective when approaching – from the client perspective, the management consulting perspective or the reliability consultant perspective. Regardless of your approach, there are a few commonalities. First, care must be taken to communicate in the buyer's vocabulary. Second, any prospective EAM engagement must be positioned to demonstrate line-of-sight to the prospective client's corporate goals and objectives. Third, EAM projects must be positioned with the client in a palatable way in order to minimize risk, increase the probability of adoption and demonstrate shareholder value independent of the overall EAM program. Keeping these concepts in mind will help you help your clients (either internal or external) improve their earnings recognition through improved asset efficiency.

About the Authors

Robert “Bob” DiStefano was the founder, President, Chairman and CEO of Management Resources Group, Inc. An accomplished executive manager with over 30 years of professional engineering, maintenance, reliability, management and consulting experience, Bob has advised senior managers in development, deployment and measurement of physical asset management initiatives that transform corporate culture and overall financial performance.

Scott A. McWilliams, CMRP, is the Vice President Reliability Consulting, Emerson Process Management. – Scott has more than 25 years of experience working in and consulting to the energy industry with a concentration on operational and corporate strategy development, performance improvement and business information technology strategy. Prior to joining Emerson, Scott was most recently with MRG and Deloitte Consulting, LLP.

¹ This example, both in terms of industry and company, was picked randomly. While based on a real company, this example is not offered as a financial analysis in anyway. Nor is it representative of a detailed evaluation of the company performance. Therefore, names are being withheld to protect the identity of the company. Furthermore, the analysis made by the example is made only to suggest there is room for improvement. It is not intended to represent any specific recommendation for said company.

² 2006 Annual Report reports 2005 Materials and Supplies of 340MM.

³ No specific data was available on the number of maintenance personnel. The assumption used in the example is that the company consists of 5 distinct operating plants, each roughly equal in production capability and each operating with 200 maintenance personnel. Plants operate 24X7 and each maintenance employee works a total of 235 days per year at a fully burden cost of \$85,000 per year each.

⁴ Further assumptions include fixed costs associated with increased production are negligible, variable costs equate to cost of good sold only and no tax, depreciation, amortization and interest impact is realized.

⁵ 2006 annual report shows \$4,663MM in 2005 SG&A expense. It is assumed that 1% of SG&A are related to maintenance spend. 10% improvement would be equal to approximately \$4.7MM in net income improvement.

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Emerson Process Management
1100 W. Louis Henna Blvd., Building One
Round Rock, TX 78681-7430
www.emersonprocess.com

