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Silent Killers
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Controlling the
SILENT KILLERS

of Strategic
Asset Management

by Grahame Fogel and Johann Stimie

This is the last installment of a two-part article that forms the basis of PhD research into the factors that prevent successful execution of asset management strategic initiatives.

Recognition among organizational stakeholders that asset management (AM) is important and requires an integrated and strategic focus is indeed a significant development. However, the mere fact that organizations have a strategic intent does not automatically lead to the achievement of strategic objectives. Asset management practitioners are faced with exactly the same strategy execution challenges as their counterparts in the rest of the business.

The ability of organizations to successfully execute their most important strategic intent is increasingly becoming a key differentiator. Part 1 of this article (*Uptime* December/January 2016) introduced the asset management strategy execution enforcement mechanism (AMSEEM), as shown in Figure 1, a practical mechanism that should become part of an organization's standard operating procedures and DNA.

Part 2 demonstrates the practical operationalization of each of these processes, with reference to an actual AMSEEM implementation within the context of a very large chemical processing plant.

The engineering manager at one of the world's largest precious metal concentrators was approached during June 2015. After AMSEEM's purpose was explained, he immediately expressed interest in using the mechanism.

In accordance with the research agreement between Stellenbosch University and the concentrator, the identities of the business units and critical stakeholders will not be revealed.

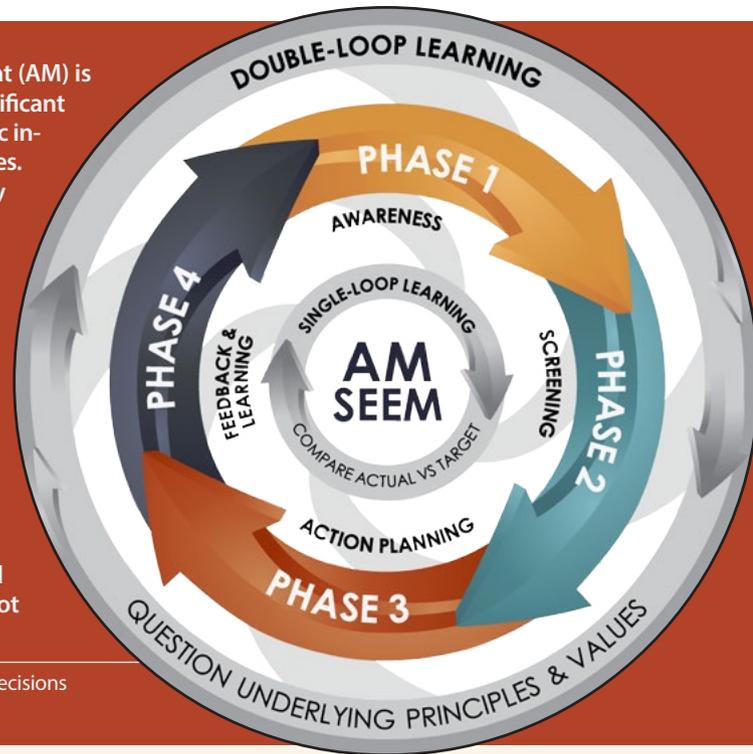


Figure 1: AMSEEM is a double-loop feedback system comprised of four iterative phases, four major decisions and several implementation processes or steps

PHASE 1

AWARENESS AND ACCEPTANCE

The concept of awareness has been used for hundreds of years by many contributors within a range of performance environments. But when it comes to asset management strategy execution failure (AMSEF), executives within organizations often deny its possibility and, even in those environments where progressive managers contemplate the possibility of AMSEF, very few mechanisms existed until now that could assist them in early identification of the presence of those factors that ultimately lead to AMSEF.

For organizations, some form of "catalyst for change" is normally required to spark them into action. In the case of an asset management organization, the catalyst for change may be a near miss, the failure of a critical piece of equipment, or a total catastrophe.

Operationalization of Phase 1: Awareness and Acceptance

The decision to initiate a risk identification and optimization process was already made by senior executives within the organization before embarking upon the intervention. The catalyst for change in this instance was a suboptimal AM performance and pressure from the central organizational structures.

AMSEEM recommends the completion of a number of action steps during Phase 1. The operationalization of each of these steps for the precious metal concentrator are:

STEP 1 – Constitute a Steering Committee

After consulting with the concentrator manager, the engineering manager and the plant manager, a steering committee was formed. The committee consisted of 18 members representing the most important asset management stakeholder groups: the maintenance manager and a selection of team supervisors, the production manager and a selection of key team supervisors, and a number of planners.

When composing the steering committee, great care was taken to ensure representation across functions and management levels.

STEP 2 – Evaluate Asset Management Strategy (AMS)

In light of the fact that a complete AM assessment took place prior to the operationalization of the AMSEEM, the AMS evaluation was not a requirement at the concentrator. However, regular references to the observations noted in the AM assessment report were made.

STEP 3 – Create a Statement of Direction (SoD)

Based on the observations made during the AM assessment, the steering committee formulated the following SOD:

"The concentrator accepts the reality that a number of factors prevent us from achieving our goals. We realize that far more value can be unlocked from our physical assets if our asset management strategy is well-defined and executed. We are committed to identifying these factors proactively, understand their impact on the organization and on each other, and are prepared to develop action plans to eradicate these factors or to minimize the possible effect they might have during the asset management strategy execution process."

STEP 4 – Introduction of the Generic AMSEEM

During a one-day workshop, the AMSEEM principles and objectives were explained in detail to the steering committee. All aspects and requirements were presented and contextualized.

STEP 5 – Agreement on the Terms of Engagement

The steering committee formulated these terms of engagement:

Mandate of the Steering Committee

The steering committee will have access to all information required to complete the screening phases. During the screening process, the steering committee may nominate representatives to gather information on its behalf. In the event any dispute arises regarding the sensitivity of any information, the matter will be referred back to the steering committee, which is authorized to access the information.

The screening team will have access to all relevant staff members and can set up meetings with them when required during the screening period.

Meeting Intervals

The steering committee will meet on a weekly basis during the screening period. Thereafter, the steering committee will meet either when reports are presented or decisions regarding progress or significant process changes need to be taken.

Delegation of Authority

The steering committee can delegate authority to relevant staff members or contractors to assist it during the course of the AMSEEM operationalization.

STEP 6 – Develop the AMSEEM Calendar

After agreement was reached regarding the research mandate and scope, a research project plan was developed. An abridged version of the agreed upon project plan is provided later in this article. However, presenting the detailed AMSEEM operationalization calendar falls outside the scope of this article.

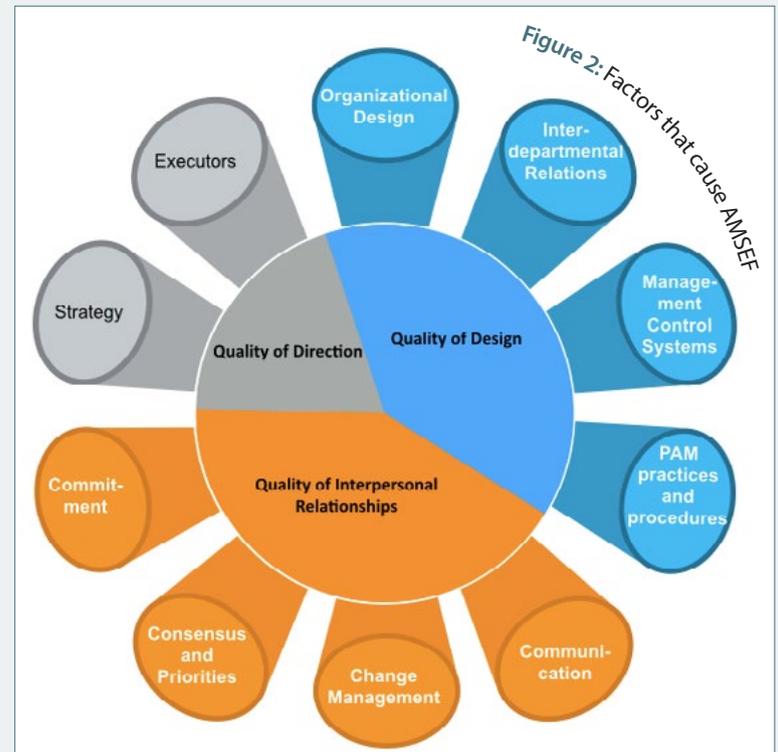
STEP 7 – Develop a Stakeholder Communications Campaign

The steering committee considered the principles of internal marketing during the development of the communications campaign. The committee

not only considered the themes it wanted to communicate, but also the stakeholder groups or market segments, as well as the use of the most appropriate communications media.

Impact and Effectiveness of the Process and Artifacts

Awareness in itself plays a critical role in prevention. During conversations with 14 of the 18 steering committee members, as well as e-mail correspondence entered into after the completion of the study, it was confirmed that awareness levels regarding the potential impact AMSEF could have on the sustainability of the concentrator increased significantly as a result of both the AM assessment and the AMSEEM operationalization.



PHASE 2

SCREENING AND DETECTION

Screening for AMSEF has three prerequisites:

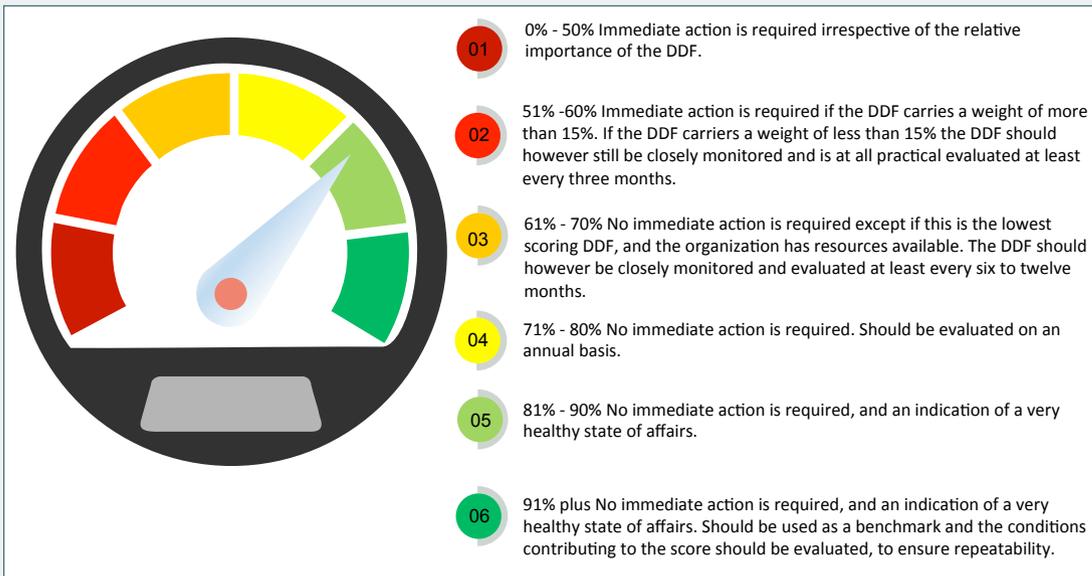
1. *Thorough understanding of the factors that cause AMSEF.* These factors are illustrated in Figure 2. The categorization of factors is not an attempt to illustrate possible causal relationships that might exist among the deadly defect factors (DDFs), but rather to assist users during the administration of the mechanism and enable improved communications and feedback regarding AMSEEM.
2. An instrument to screen for these factors. For the purpose of screening, a scorecard was developed to evaluate all causal factors in an integrated way. An example of a completed scorecard is presented in Table 1.
3. A reporting mechanism that AM practitioners can use to interpret and screen the results. A generic interpretation guideline is presented in Figure 3.

Table 1 – Completed AMSEEM Scorecard

Deadly Defect Factor	FW	TPC	IPS	MAS	PS	TFS	TFS%
Quality of Direction							
Strategy Formulation	20%	3.00	2	2	2	1.2	40%
Executors of Strategy	10%	1.50	4	3	2	0.9	60%
Quality of Design							
Organizational Design	15%	2.25	3	2	2	1.05	46%
Interdepartmental Relations	5%	0.75	4	3	2	0.45	60%
Management Control Systems	5%	0.75	3	2	2	0.35	46%
PAM Systems, Processes and Practices	20%	3.00	3	3	2	1.6	53%
Quality of Interpersonal Processes							
Communication	15%	2.25	3	2	2	1.05	46%
Change Management	2.5%	0.37	4	4	4	0.2	80%
Consensus and Priorities	2.5%	0.37	4	4	4	0.2	80%
Commitment	5%	0.75	3	3	3	0.45	60%
Totals	100%	15				7.45%	49.6%

PHASE 2 (Continued)

Figure 3: Interpretation guideline



engineering and operational practices and processes. The observations were made during all shifts, including over weekends.

Inductive reasoning was followed in the analysis of the collected data. Attempts were made to discover key issues, recurrent issues, patterns and relationships through close scrutiny of the data. Data was analyzed and interpreted by means of inductive abstraction and generalization.

STEP 3 – Scorecard Completion and Score Calculation

In light of all available information, the steering committee completed the screening scorecard during a two-day workshop. The workshop was facilitated by the research team and all decisions were taken through consensus. The completed scorecard is presented in Table 1.

Operationalization of Phase 2: Screening and Detection

This section describes the implementation steps, as well as the artifacts, used during operationalization of Phase 2 of AMSEEM.

STEP 1 – Introduction and Contextualization of the Screening Scorecard

The generic screening scorecard was introduced to the steering committee. After deliberation and with full cognizance of the observations made during the AM assessment, the composition of the screening scorecard was finalized. The DDFs were weighted and the total possible contribution (TPC) of each factor calculated. It was agreed to utilize multivariate assessment criteria as part of the scorecard, with the steering committee deciding to use these three multivariate assessment topography (MAT) dimensions:

- **In place** – The availability and quality of strategies, policies, procedures and action plans;
- **Maturity** – Organizational awareness and understanding of available strategies, policies, procedures and action plans;
- **Performance** – The perception of key stakeholders regarding the extent to which goals and objectives are achieved.

In addition, it was agreed to use a five level Likert scale during the evaluation of various AMSEF causal factors. It was agreed that the five levels should have these descriptions:

1. Strongly disagree;
2. Disagree;
3. Neither agree nor disagree;
4. Agree;
5. Strongly agree.

STEP 2 – Data Gathering

During the AM assessment phase, the research team collected critical information. As the team applied the principles of triangulation, it was required to not only rely on information gathered during interviews and document evaluations, but to physically observe

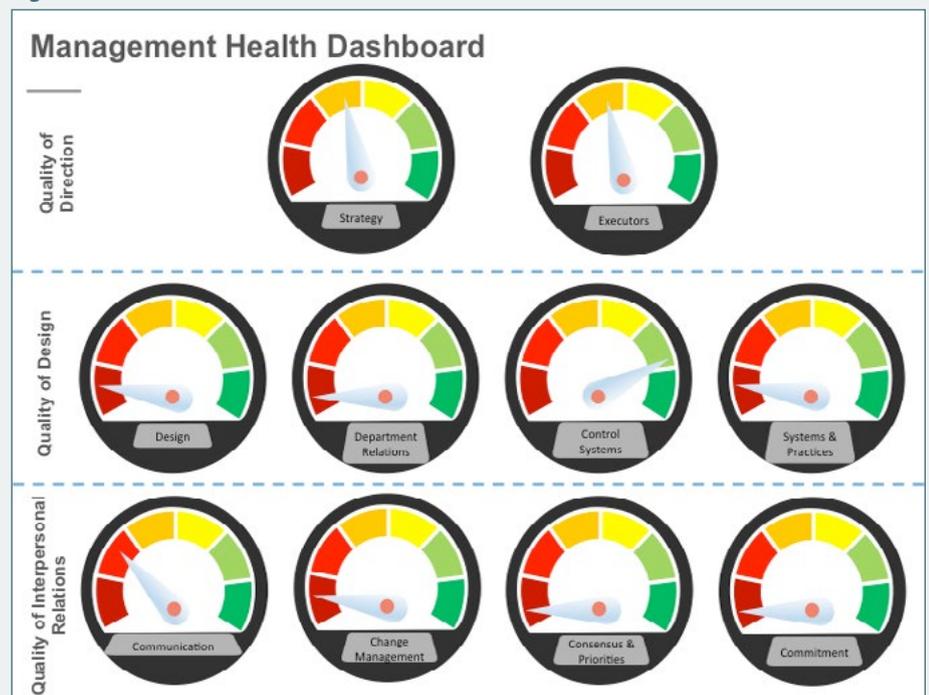
STEP 4: Interpret and Present the Results

After completion of the AMSEEM screening report, it was presented to various stakeholder groups. The aim of the feedback sessions was not only to provide feedback, but to extract information from stakeholders that was used during the development of action plans.

Focus group principles were applied to ensure optimal stakeholder participation. In addition, joint problem-solving was applied to ensure solutions for the presented problems were found in the most effective way. Thus, these sessions were treated as both an important group learning moment and an opportunity to tap into the tacit knowledge base that exists within the organization.

In an attempt to facilitate easier interpretation and communications, the results were also presented in a dashboard format, as illustrated in Figure 4. The generic interpretation guideline presented in Figure 3 was used during the interpretation of the results.

Figure 4: Dashboard format of AMSEEM results



PHASE 3

Action Planning

Phase 3 of AMSEEM is action planning. Based on the interpretation and recommendations made in the AMSEF DDF report, the organization had to develop and prioritize a number of action plans. A detailed presentation of these action plans falls outside the scope of this article. Suffice to note are the principles and guidelines the steering committee considered during the development of the action plans.

The Organization's Readiness to Change

AM practitioners need to understand and be cognizant of organizational stakeholders' readiness to change when action plans are being developed. Change readiness assessments identify possible barriers, enablers and risks, which, in turn, help identify where to focus change implementation activities and resources.

Stakeholder Demographics

AM practitioners should consider stakeholder demographics during the development of action plans. Stakeholder diversity often complicates action plan implementation, so practitioners should be aware of and consider this reality during the conception plans.

Action Plan Complexity

In line with observations regarding change readiness and stakeholder demographics, AM practitioners should also be cognizant of the importance of simplicity during the development of action plans. Highly complex plans have a far lower probability of being successfully implemented, especially within the context of a diverse group of stakeholders.

Quality of Interpersonal Relationships

Action plans have a far higher probability of succeeding if the relationship between managers and non-managers is sound. Unhealthy relationships are characterized by mistrust and suspicion, which complicates the implementation of action plans.

Change Management Campaign

In line with observations regarding action plan complexity, an understanding and acceptance of the action plan's intention and purpose are critical prerequisites for effective organizational change to take place. Traditionally, organizations' communications efforts only create awareness, so AM practitioners should investigate and utilize appropriate and creative communication methods to ensure understanding and acceptance of the action plan's intentions.

PHASE 4

Learning and Feedback

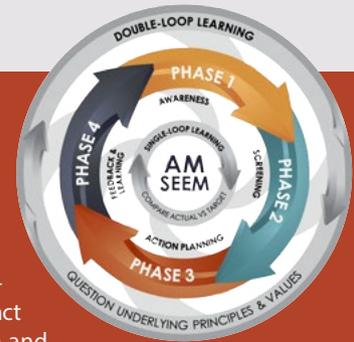
The final, yet ongoing and iterative, phase of AMSEEM is learning and feedback. Although this phase is presented as the fourth step in a series of activities, it should not be construed as such. Feedback and learning is a continuous process and within the context of the contemporary organization, the AMSEEM steering committee of the concentrator was encouraged to be continuously vigilant in the identification of signs that might indicate or require not only a change of plans, but a fundamental rethink of the underlying objectives and principles.

Thus, AMSEEM embraces the principles of double-loop learning and dialogue. The process requires stakeholders to continuously engage in dialogue, not only on results being achieved or not, but on understanding the fundamental principles and values that lead to the formulation of the AMS in the first place. Only when an organization has acquired the discipline of double-loop learning and the skill to engage in continuous dialogue will effective strategy feedback and learning, and ultimately strategy execution, be possible.

CONCLUSION

The contribution and impact the mechanism made to ensure increased awareness of the factors causing AMSEF within the context of the concentrator was significant. Likewise, the contribution and impact the mechanism had on early detection and management of a possible AMSEF have clearly been confirmed. It would be impossible to express any validated opinion on the impact and effectiveness of action plans that were not fully implemented at the time of writing this article. The action planning process, however, was deployed in such a manner that stakeholder consensus and commitment were already confirmed during the formulation and prioritization of action plans. The action planning process in itself addressed a number of fundamental factors contributing to AMSEF, such as the lack of consensus, commitment and interdepartmental conflict.

Overall, the operationalization of AMSEEM made a significant contribution to the creation of a learning organization. AMSEEM is a logical tool, and when the steps described in this article are followed closely by practitioners, could contribute significantly to asset management strategy execution success.



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