

# To talk: Key players and inclusive management in Reliability Centered Maintenance

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## Abstract

*Execution and sustainability of Reliability Centered Maintenance programs require active exchanges. In addition to state-of-the-art technologies, developing integrated, systematic, documented and well supported policies, processes and structures, it requires bringing in key players to talk. Experience suggests short-sighted notions of hierarchy and division of labor, oversimplify and lead to under-management. This paper summarizes experience gained introducing results-achieving innovations, suggests reflective practices and describes accord making procedures to improve results, and strengthen the social fabric. We call this approach inclusive management.*

Effective execution and sustainability projects were analyzed and best practices developed on the basis of consulting project experience. Special attention was devoted to the role of safe havens created for open discussion to insure satisfactory implementation of Reliability programs and to simultaneously strengthen the social fabric to insure sustainability. (1)

## A. Cultural change... a pending assignment

Impelled by market and internally induced transformations, new tools are added to bolster profitability, productivity, quality. Improving performance and generating a new organization. Prevailing notions, however, stand in their way and managers face a mess, need to discover new ways out. (2)

Because, much to our regret, organizations are complex and we attempt to respond without challenging accepted ideas that rely on hierarchy and division of labor. We assume that putting two and two together will inevitably produce four when the nature of the factors involve multiplication or division rather than simple adding up.

Hard and soft factors are hardly ever integrated, results are meager and participants say innovations do not produce expected benefits. Dissatisfaction rules, young talent flees, older staff are diffident and corporation prestige decays. Because, above all else, successful implementation requires leaving aside customary approaches, and looking at things with a new vision.

In a 2006 issue of Project Management Review we learn that 70% of project failures include people realizing something is out of joint, yet keeping silent. Dissatisfaction stands at 54%, 68% of all budgets run above expectations, deadlines are not met in 77% of all projects; 75% include quality specs deviations. This is mainly traced to management, not technical issues, i.e. (a) lack of Top Management commitment; (b) stretch goals that establish unrealistic terms; (c) turf issues; and (d) sectorial fragmentation.

Findings show that these factors are the key, not so the access to funds, equipment nor qualified personnel. A paradigm shift is required.

## B. To talk: the way out

In managing a successful Reliability program, executives create support networks; tie the organization to the improvement project, and use resources fully.

Soft metrics are installed through leadership that values key issues rather than urgency, and includes stakeholders to strengthen organizational culture. In this paper we concentrate on a reflective approach, i.e. inclusive management, that creates organizationally aware key players.

Cultural change remains a pending assignment. Unless exchange is fostered, Reliability programs, with all their promise, may remain a glint in our eyes.

After participating in numerous Change Projects and analyzing their results, the following surface repeatedly.

a. After major changes in the corporate culture, the work ethic was swept away, credibility vanished, trust was corroded. Mainstream acceptance of the distance between Operations and Maintenance has been further fragmented. Under these circumstances, going from thinking to doing needs a major shift in priorities.

b. Open exchange may be the single over-riding factor that may reinstitute trust and explain improvement project results. Time and time again, inadequacies are mentioned that can be traced to personal and organizational failings in establishing conversation between departments. Participants repeat that the example set by key executives as they balance strategic, management and cultural issues is critical.

c. Rooting Reliability Centered Maintenance innovations requires stressing the balance between hard and soft indexes, and learning to identify and follow soft metrics e.g. circumstantial evidence, traces, token discoveries. Without this complementation it seems unlikely to expect innovations to take hold. Inefficiency can be traced to over-emphasis on technical-hierarchical variables.

### C. Managed or under-managed operations

In the light of the above, what new competencies are required from top executives to develop a viable Reliability Project? Because a project can only stay alive and prosper as long as interdependent contributions arise. Otherwise, we should speak of under-management.

Surely close attention is to be paid to project scope, that leads us to deadlines, costs, quality and Health, Safety and Environmental criteria, dynamically balanced by soft variables.

Which is difficult because managers traditionally emphasize Engineering and Accounting practices while the recommended approach suggests bringing in Social Psychology.

Reliability Maintenance practices draw attention and projects are on the rise, but few teams devote the required time to goal establishment, to balance means and ends, to develop budgets, to value interpersonal contributions, to insure improvements are attained. Procrastination has the upper hand and cultural issues are only addressed when stakeholders are courageous enough to speak up. They are seldom part of the planning and preparation stages. (2)

As time passes, best practices are available, and more teams are paying attention to this matter. Most do so as part of certification processes, others by emulation but the majority does so only after major costs have been incurred.

### D. Making sense

Managing a complex operation presents manifold hurdles. And Reliability projects require acknowledging that a spectrum of discomfiting data arise when individuals take the time to speak out.

In safe havens, people mention eight tightly interwoven hard and soft fields to be addressed. When this is done, shared understandings facilitate program execution.

### Hard metrics:

#### 1.1 Costs

- Can reasonable, yet ambitious goals be established?
- How can valid information be brought to light?
- Can priorities be agreed to, before launching?

#### 1.2. Deadlines

- Are fear and self-complacency key concerns in the organization?
- Can resistance to change be minimized?
- How can goal attainment be insured?

#### 1.3. Quality

- What is the impact of Quality on Reliability decisions?
- What role can stakeholders play?
- Are communications to remain an open sore?

#### 1.4. Health, Safety, Environmental

- How can testimonials be shared and discussed?
- Can HSE best contribute?
- Are HSE's contribution's acknowledged?

### Soft metrics:

#### 2.1. Leadership

- Does top management value Reliability?
- How can alignment be effected?
- Can double standards be eliminated?

#### 2.2. Processes

- Are current systems and procedures adequate?
- Can learning curve obstacles be reduced?
- How can anticipated deviations be eliminated?

#### 2.3. Competencies

- Who dares talk about what must be said?
- Can systemic thinking be learned?
- Is everybody conscious of Added Value Chain ideas?

#### 2.4. Interdependencies

- Can the relationship between Maintenance, Operations and other areas be improved?
- Can turf issues be addressed to reduce conflict?
- Is it possible to develop overarching goals?

### E. Knowing how

Reliability improvements, as any others, are best included after a critical mass of stakeholders realize major costs will be undergone unless such an initiative is launched. Once felt needs are openly discussed and pilot projects approved, the following prescriptions may be of help: (3)

### I. Managing transitions:

Know a transition is to be managed. Reliability involves new approaches to administration and cannot be incorporated without full support from Top Management. Failure and recriminations can be forecasted when backing is divided, especially in times of financial or marketing concerns. So, show the way, stay close to the action, use control and feedback systematically.

**2. Set the course:** Top Management should closely tie the Reliability project to Company Strategic Results. Poor performance and hardship follow when executives consider it is only a question of managing direct costs; paying lip service to compliance; ignoring how the effort ties into short and medium term results.

**3. Agree on results:** Devote time to develop accords, only then fix goals. Think strategically, even in an unstable environment: understand what every stakeholder wants. After SWOT analyses, insure means-ends equilibria are brought to bear, identify gaps and only then develop an Action Plan.

**4. Acknowledge a company is an economic, political and social system:** To develop the dynamics that will strengthen the improvement process, power considerations have to be brought in. Authority needs to be redistributed; change agents must be trained to support the process; identification with the change process must develop; and profit from the emergence of crises to plan and reajust creatively.

**5. Agree on fundamentals:** Reward and evaluation systems, risk aversion, resistance to change, vested interests pressure participants to limit their actions to tried and true, but run-of-the-mill systems and indicators. Review assumptions carefully. On this foundation, create deliverables and new data bases, monitor and feed back on a systematic basis.

**6. Deploy:** Reliability can take hold if isolation between areas can be questioned, and every participant contributes to colleagues needs: in this manner, firm interdependence will shorten the learning curve under-belly. Devoting special attention to the particular circumstances of the project, participants will know their reality is being considered and performance may be sustained.

**7. Align, go one step at a time:** Change is processed in small doses, and first indications of success should be celebrated as well as those signals that replace quantitative measures. Discover and analyze the impact of in-bred habits. Tear down barriers. Do not use teambuilding to gratify people, but to show behaviors can be changed and learning can be transferred.

**8. Empower:** Take risks, use mistakes to review current approaches. Identify gaps in professional and personal competencies, specify training needs, rigorously relate every expected improvement to particular project stages and provide coaching to empower in technical, managerial and interpersonal

competencies needed to install the new tools and criteria. Delegate, do not micro-manage.

**9. Communicate:** Tell and discuss what's going on in the world and in the industry, on how this affects the corporation and individuals, and on which initiatives can best be put in place to consolidate and grow. Communications help understand, come to shared definitions and lead to commitment. Innovations take hold when goals, resources and limitations are known, when invitations are sent to all parties who know the situation and operate in it; when questions are heard and answered.

**10. Include:** Every stakeholder contributes to success, or becomes a rigid barrier. Define how to take into account customers, suppliers, unions and government offices as well as other parties. Which introduces spot interventions to reflect and come to an understanding of the goals of the Reliability Project, insure social ties are reinforced and reparations taken into account

**F. Inclusive management**

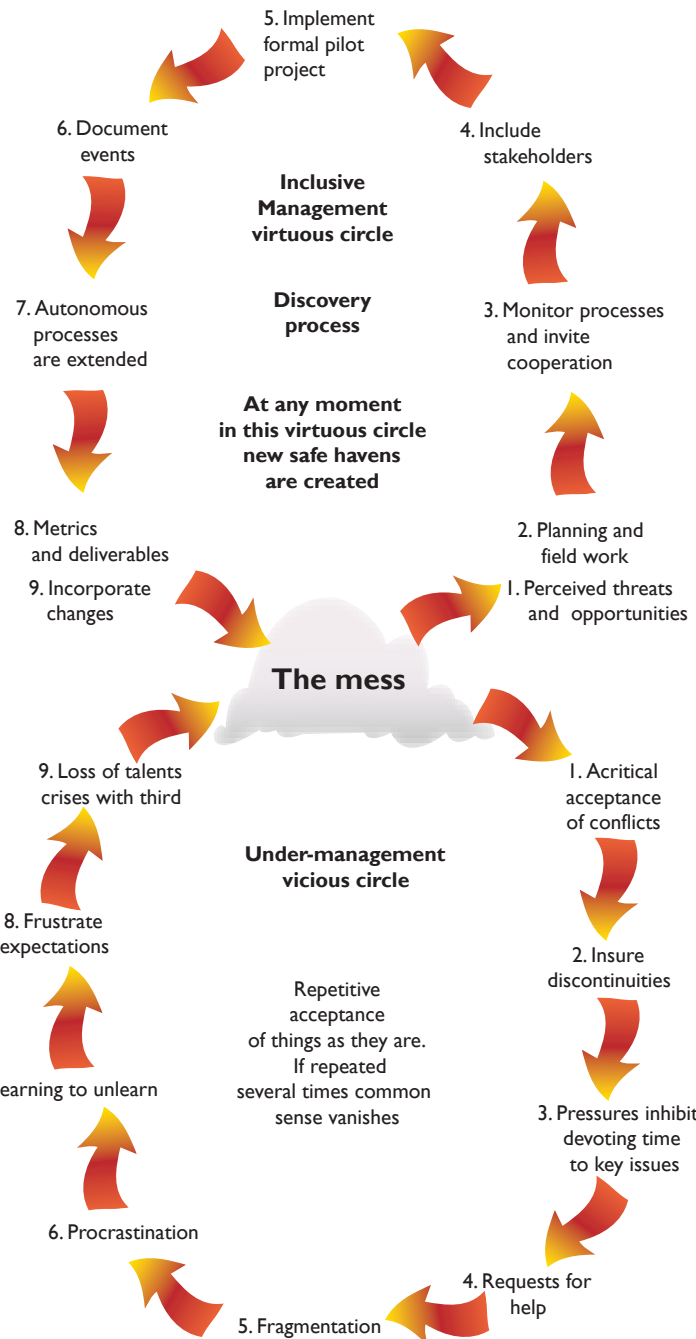
The following Virtuous and Vicious circles show the straight and narrow path as well as foreseeable hurdles.

**G. Owning up**

No project can reach its goals unless accords are arrived at. Every party interested in improving performance, or in moving out of deadlock, spontaneously thinks of consulting others and hopes reflective practices will open the way to breakthroughs.

At the very start the project leader should attempt to generate consensus, and gain respect by exercising judgement: every specialist knows of the vagaries of influence as against coercive management, as for example a respected physician who prescribes knowing his prescriptions will not commit the patient to accept his indications, and there is little he can do to insure he will comply fully. His potential impact lies solely in his capacity to develop interest and initiative in his counterpart, and become influential if and when he develops interdependence.

All consulting projects assume equipment can be purchased and maintained, numbers must reflect reality in the field, but behavior.



Coming to an understanding involves two or more parties agreeing on what must be done. It happens when they realize that unless they do, implementation will be compromised. When it is attained, benefits are immediately apparent: individuals become aware that a team spirit arises and that sensible behaviors lead to sensible participation.

This means owning up, and takes time, and these two combined explain the major hurdle in implementation.

**H. Enabling**

1. In response to perceived threats and opportunities, create safe havens and suspend

critical judgement. Draw up a Stakeholder Map to include those who will be most affected. Install exchanges to understand preventions, interests and consequences and include suggestions.

2. Plan and develop field work: listen, circulate information and develop answers. Persist in stimulating data collection even though first responses will be defensive and deal with reparations, compensations for real or perceived losses.

3. Monitor closely and invite stakeholders to collect disconfirming data and share problem definition. Make certain all disconfirming facts are gathered to define a viable project.

The oftener this is done, fear and apprehensions may be lowered and information quality will increase.

4. Add stakeholders formally and provide unconditional support. Make sure action follows words: persevere to enrich dialogue, develop acceptable criteria and overcome customary top-down approaches to gain credibility and solidify reputations.

5. Implement formal pilot-project and develop win-win approaches, insuring all affected parties honestly commit to desired legitimate goals. Special attention should be paid to process –how things are done-, and not only to technical execution –EXCEL format information.

6. Document the impact of the first event, process complex data and move ahead. Trust can be fostered by showing how things can be different this time. This includes giving witness before top management. As progress is made, debate should forestall potential restrictions so objectives can be met.

7. Acknowledge process becomes autonomous, generate further alignment and review evaluation criteria. Normally, only a small portion of stakeholders participate, whereas during execution, support will be required from all. Under pressure, some may respond with coercive measures, a negative turn of events. Reject inspirational messages.

8. Assess through metrics and deliverables. Document what has been attained and concentrate on process followed emphasizing the benefits of inclusive management so as to extend these practices in coming endeavors. Celebrate, reward, value effort and creativity

9. Institutionalize changes and learning, question how best to extend the project. Intelligence is produced when, after debriefing, managers install new approaches to reliability programs. This remains in participants memories as a common sense epic. If you consider this was just another effort, go back to Square 1.

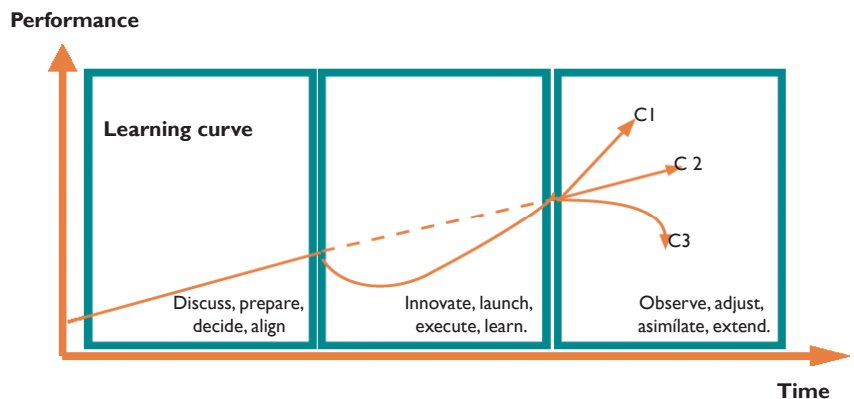
**I. Lessons learned**

Ideally, implantation is a managed process. Still, every incorporation provokes resistance to change, and affects performance. And the greater the disregard for the experience curve, the longer it will take and the greater the cost.

Every cell in the next table summarizes experience derived from projects in which design responded to the needs of the single case.

The following actions help reduce implementation time and improve learning curve data. The later soft considerations are included, the greater the probability that the social fabric will suffer and trust will have to be reinstated.

We found that by talking, a Reliability Centered Maintenance program adds know how, owns up to leave aside technical-economic over-simplification, and enables new stakeholders. This explains implantation success.



	<b>Think 1</b>	<b>Implant C1</b>	<b>Sustain C1 results</b>
<b>What does inclusive management contribute?</b>	Specifications drawn up with participant areas, balancing goals, resources and time constraints. Ideas, concerns, doubts and resistances attended to as they surface.	Adjustments made on the basis of learning curve evidence. Difficulties and postponements solved. Threats and doubts met to internal client satisfaction.	Goals redefined as experience develops. Results evaluated Strengths/ & failings. acknowledged. Provisions installed to warrant reliability, sustainability.
<b>Which resources at your service?</b>	Strategic / Operational Plans, Key Results Areas, Performance Indicators Feedback Culture gaps studied with Team Work / Team Building approach Preventive planning contracts / disclaimers	Problem analysis and decision making. Conflict management. Monitor contributions Adjust and add reparations as participants add their suggestions.	Policies / systems / procedures reviewed. Coach to improve hard + soft process integration. Reward and acknowledge. Extend processes with corrections.
<b>Who are the participants?</b>	Assign top team sponsor & Steering Comité. Make responsibility and accountability explicit against deadlines.	Involved participants, members of follow-up task forces with active internal facilitator involvement.	Extend project to related areas.
<b>What deliverables can be contributed?</b>	Clear agreed-upon goals. Action plans with base lines, contingency plans and fall-back options. Interdivisional alignment. Assess felt need and training achievements.	First objective data in numbers, evidences, observable behaviors Goals / deadlines on-going evaluation Satisfaction with products and processes First testimonials	Include new stakeholders. Satisfactory on-going process. Learning assimilated Hard and soft results monitored. Consultation from within and outside corporation Leading case info processed.

**J. Tentative findings**

Our paper summarizes lessons learned, and explains steps to be taken to develop sense-making. Success hangs on inclusive management. On this basis, success can be measured both in efficiency and social responsiveness.

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