A System to Stay in Control

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We all know this: In society, people must control their actions and behaviors, or they might harm themselves or others. Just as we control ourselves and, for example, refrain from striking others when we disagree or get upset, companies must have control mechanisms in place so healthy policies and procedures are followed.

If organizations don't do this, big problems can happen. Consider these recent events:

- BP's oil spill in the Gulf of Mexico.
- Toyota's automobile quality problems and recalls.
- Dell Computer's accounting issues that resulted in costly penalties.
- Lending institutions' foreclosure problems.

Were these companies in complete control? Did they have effective systems in place to guard against conflict and catastrophe? Did they lose focus on what was important?

Usually, management systems organizations focus on achieving goals, which can lead to short-cutting necessary process steps or playing games with numbers (financial and otherwise) to meet management's passed-down objectives. These types of systems can be especially detrimental when a financial reward system is tied to achieving goals.

To illustrate how current business management practices can sometimes lead to unhealthy behavior, consider what Lloyd S. Nelson, the director of statistical methods at Nashua Corp., and a prolific author, wrote: "If you can improve productivity or sales or quality or anything else by (for example) 5% next year without a rational plan for improvement, then why were you not doing it last year?"[1]

From Nelson's statement, you could conclude that the commonly used, goal-based red-yellow-green scorecard method has fundamental problems. Potential unhealthy behaviors from these scorecards include wasting resources by fire-fighting commonplace issues as though they were special causes[2] and avoiding healthy organizational control procedures to meet the numbers.

To avoid these problems, organizations must work within a no-nonsense, orchestrated management system so the entire business can benefit and achieve the three Rs of business: Everyone doing the right things the right way at the right time. Even when the enterprise environment is interactive and complex, organizations need an effective systematic approach that integrates these healthy business components:

1. Predictive performance scorecards.

2. Analytically and innovatively

Figure 1. **The Integrated Enterprise Excellence (IEE) business management system**
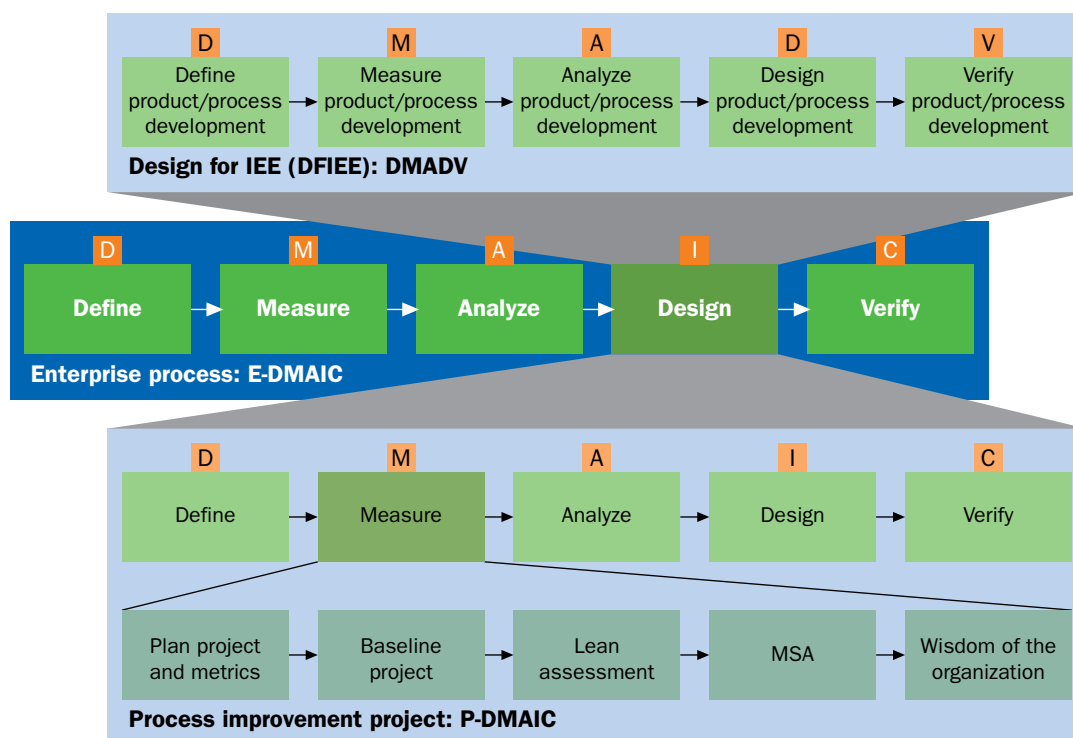
DMADV = define, measure, analyze, design and verify
MSA = measurement systems analysis

E-DMAIC = enterprise process define, measure, analyze, improve and control
P-DMAIC = project define, measure, analyze, improve and control

Figure 2. **Integrated Enterprise Excellence value-chain example**
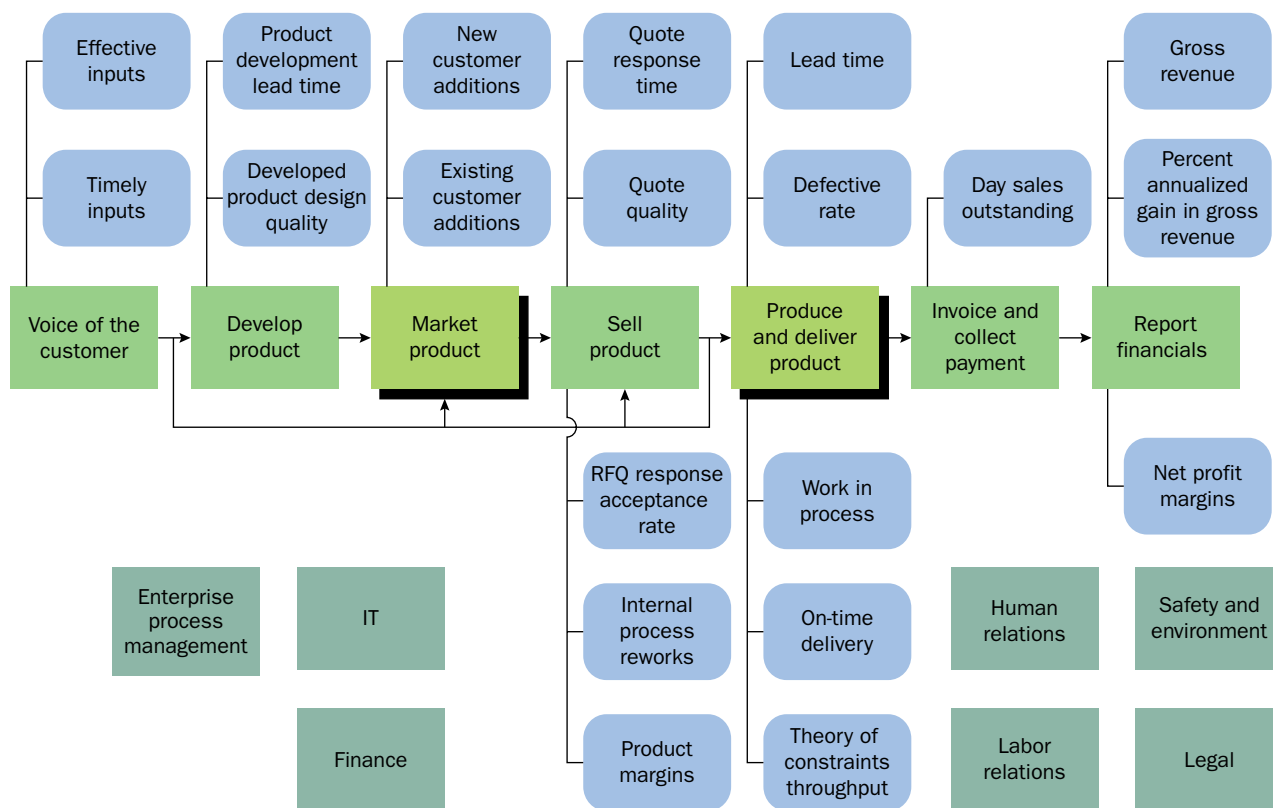
determined strategies.

3. Process improvement efforts to benefit the entire business.

4. Efficient and effective control mechanisms to avoid problems.

Business control system

In Six Sigma's process improvement roadmap (define, measure, analyze, improve and control [DMAIC]), control is listed as the procedure's last phase. This phase was included so processes do not revert to previous methods after a project was completed and the spotlight taken off the improvement activity.

Similarly, businesses need a control mechanism so documented, agreed-to procedures are followed correctly. There must be an understanding that these procedures will need systematic enhancement over time in a never-ending pursuit of the three Rs of business.

The Integrated Enterprise Excellence (IEE) system (Figure 1) addresses this need to orchestrate overall business operations with process improvement efforts. Within this system, there are two DMAIC roadmaps: project DMAIC (P-DMAIC) and enterprise process DMAIC (E-DMAIC).

In this system, the P-DMAIC roadmap connects with the E-DMAIC roadmap in the business system's improve phase because process improvement projects are one of the two ways to improve the overall enterprise. The other improvement method is through a design project.

In defining the P-DMAIC roadmap execution,[4] some additional drill-down steps are included in the measure phase. I first included these steps in *Implementing Six Sigma*[5] when I attempted to place tools in the roadmap steps as General Electric (GE) did.

For example, GE put tools such as failure mode and effects analysis, flow charting, cause-and-effect diagram and cause-and-effect matrix

into the measure phase. These tools did not seem to relate directly to measure; hence, I collectively categorized these tools as "wisdom of the organization" in the measure phase drill-down. Similarly, I broke down other measure phase components into more descriptive steps.

The E-DMAIC roadmap portion of this IEE system provides the framework for an enhanced business management system that structurally integrates the four desired components of an overall business management system described earlier.

One aspect of the overall E-DMAIC system that addresses organizational control is the value chain, which integrates operational procedures with predictive performance metrics (that is, a component of the define and measure phases of the E-DMAIC system).

Figure 2 (p. 31) shows an example of the IEE value chain in which organization and control procedures are presented by clicking the drill downs of the rectangular boxes, while predictive 30,000-foot-level performance metrics[6] are displayed as a business scorecard by clicking on the oblong boxes.

Aspects of the E-DMAIC control phase activities include:

- Deploying enterprise standardization so important process elements are consistently performed in the best possible way.

- Ensuring effective business process audits and business process management with their documented procedures in the value chain.

- Institutionalizing process-error proofing wherever possible.

- Ensuring the 30,000-foot-level scorecard and dashboard metrics with improvement objectives are tracked and reported correctly and effectively, and incorporated into performance plans.

- Conducting regular monthly management meetings and giving inputs, when appropriate, to how data are presented and analyzed.

The organizations cited earlier might have focused on one primary metric rather than overall enterprise success, which led to significant problems.

A value chain breaks down commonplace organizational silos in which this business fundamental performance map provides scorecards and procedures that have ownership. Linking performance measurements with controls in the value chain provides a framework to prevent unhealthy behaviors, which can lead to detrimental consequences. The system provides structure for organizational movement toward achievement of the three R's of business. ⬛

REFERENCES

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