


Handbook of Human Performance Technology

Third Edition

Principles, Practices, and Potential

James A. Pershing
Editor

Foreword by Harold D. Stolovitch and Erica J. Keeps

Pfeiffer
A Wiley Imprint
www.pfeiffer.com

CHAPTER ELEVEN

Modeling Mastery Performance and Systematically Deriving the Enablers for Performance Improvement

Guy W. Wallace

The purpose of this chapter is to share an approach to developing quickly a consensus model of mastery performance and then systematically deriving the human and environmental enablers required to support that mastery performance. The model will also help in further assessing the importance and adequacy of the enablers for the current state, the future state, or both. The data allow one to determine which of the enabler gaps warrant closing based on the performance-improvement initiatives' projected return on investment (ROI).

This analysis approach is best used when some of the performers are already demonstrating high performance and others are not. Since 1982, I have used this evolving approach in over two hundred projects with Fortune 500 clients for instructional and noninstructional initiatives. I have trained and coached over 250 practitioners in the use of the application. Together, we have well over a thousand applications and a thousand stories to tell. In the course of such stories, one would discern much variation among these many practitioners in the exactness of the approaches used in both "modeling mastery performance" and "systematically deriving the enablers."

Modeling mastery performance is a robust approach; it is more about the data sets generated and less about the exactness of the process or method. I will cover the accelerated and other approaches to modeling mastery performance, and then will show how to systematically derive the enablers.

The chapter's content will start with an overview of the two major data sets of our focus, the "performance model" and the "enabler matrices," followed by

an overview of the targeted usages of each in improving performance. Having completed the advanced organizer, the chapter then will move to the specific tools, techniques, and steps for generating the performance model and the enabler matrices data sets. Next, the two key teams needed to carry out performance modeling and enabler analysis efforts are explained, as are participant selection criteria and overviews of key roles in the analysis process. Finally, the chapter covers the potential impacts of the performance model and the enabler matrices data sets to the improvement requirements of an enterprise's targeted business processes as well as its processes for human-asset management and environmental-asset management.

Modeling mastery performance and systematically deriving the enablers generates data for use in downstream improvement efforts, including additional analyses, design, and development efforts.

INTRODUCTION TO THE KEY DATA SETS

The two key data sets are "performance models" and "enabler matrices." Respectively, they capture the model of mastery performance and the enablers of that mastery.

The performance model and the enabler matrices are two linked sets of data that are produced from the current-state view of master performers who have proven that high performance levels are attainable. The performance model and the enabler matrices can also be produced for a future-state view.

Performance Models

The performance-modeling process documents the requirements of the performers within the scope of the intended project and creates performance models. A performance model is the device used to capture ideal performance requirements. It is also used to document identified gaps from that ideal performance and their probable causes.

The performance model has two components: (1) areas of performance (AoPs), which are the segments of overall performance; and (2) enabler charts that capture the data details for each AoP segment (see Figure 11.1). Performance models may be developed for an organization, a function, a job, a task, or a process.

The information in a performance model includes a segmentation of overall performance into AoP segments, plus details regarding the expectations for outputs, their measures and standards, the tasks per output, and the roles and responsibilities per task for all involved performers. The ideal mastery performance is documented on the left side of the performance model chart. This information is then used to facilitate a structured and systematic gap analysis on the right side (see Figure 11.2).

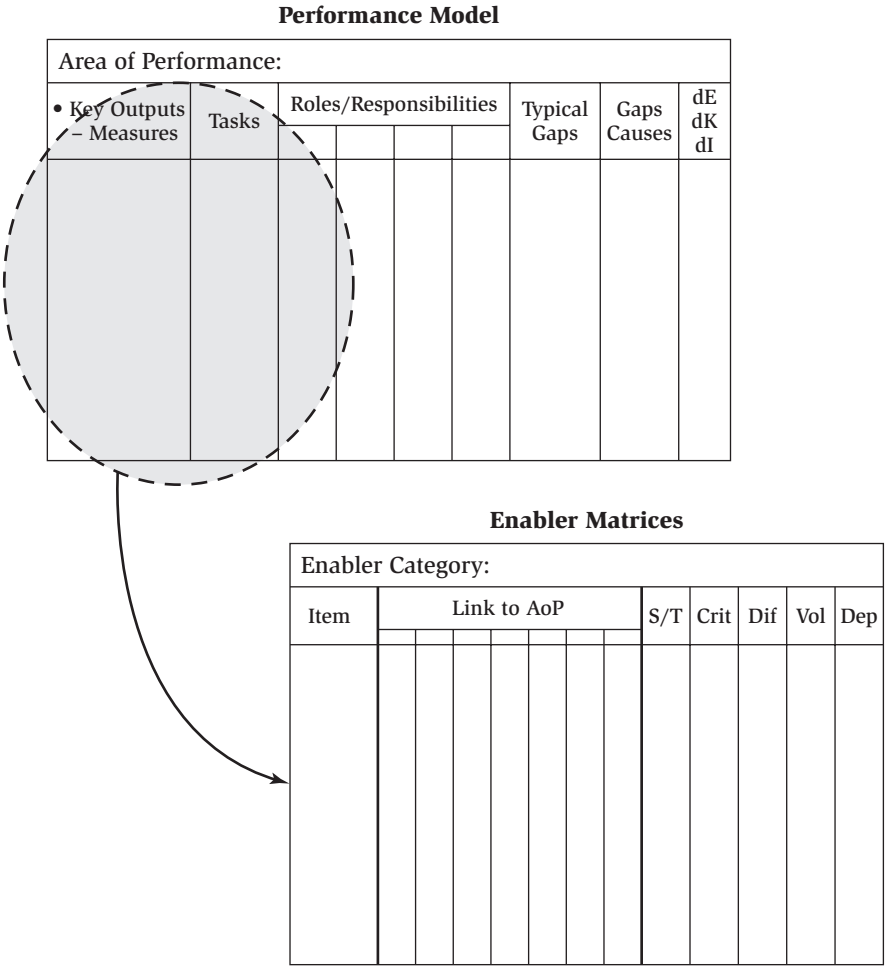

Figure 11.1. Deriving Performance Enablers.

The entire performance model data set, including the gap analysis data, is then used in analyzing and specifying both the human enablers and the environmental enablers that are necessary to achieve mastery performance.

Enabler Matrices

The enabler matrices document the human and environmental asset enablers required for mastery performance. "Human asset requirements enabler analysis" occurs when the requirements for the human assets are ascertained via a systematic review of the documented mastery performance outputs and tasks.

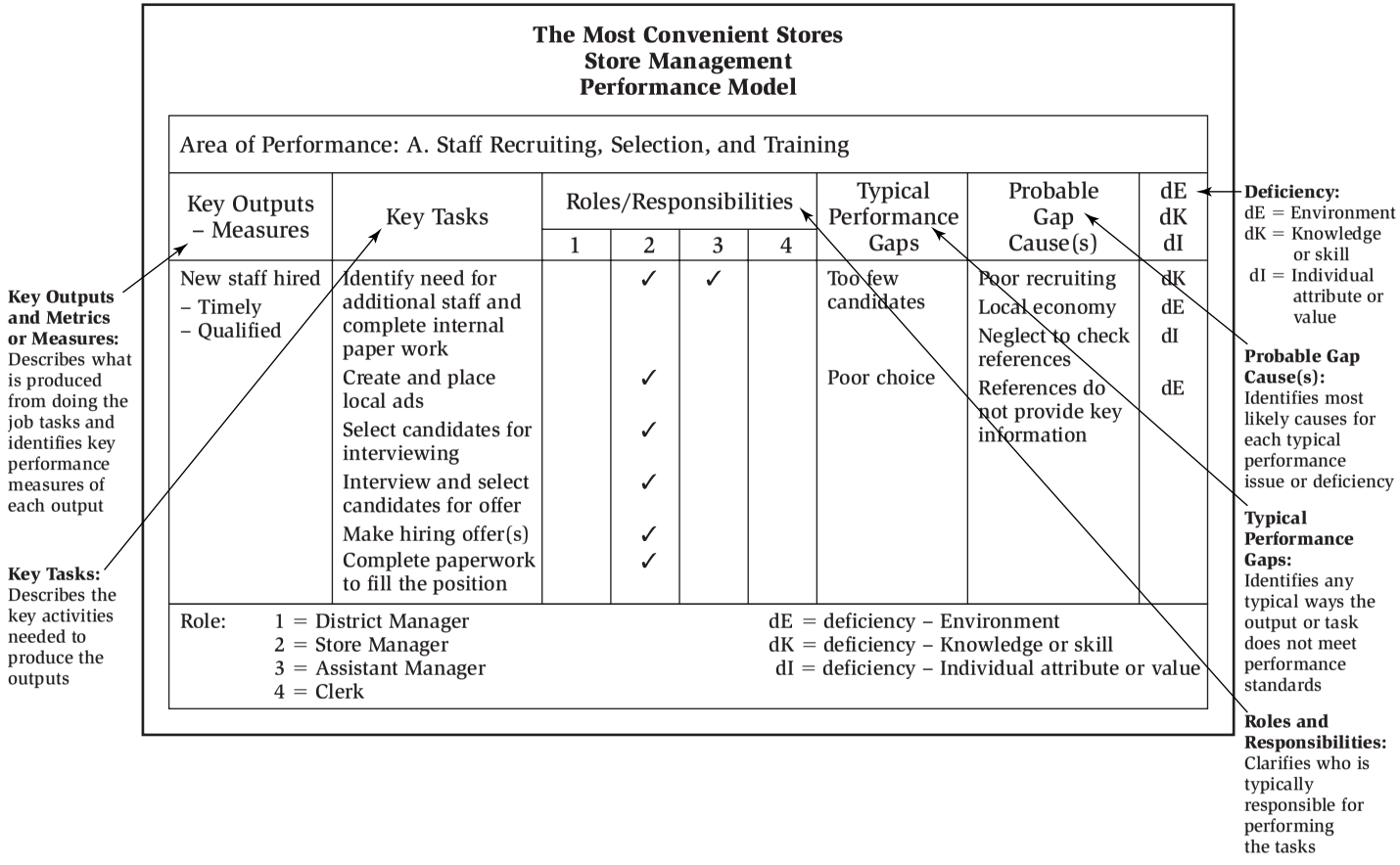

Figure 11.2. The Performance Model Data Sets.

Human assets categories are

- Awareness, knowledge, skill
- Physical attributes
- Intellectual attributes
- Psychological attributes
- Personal values

"Environmental asset requirements enabler analysis" occurs when the requirements for all nonhuman assets are ascertained, again via a systematic review of the documented mastery performance. Environmental assets categories are

- Data and information
- Materials and supplies
- Tools and equipment
- Facilities and grounds
- Headcount and budget
- Culture and consequences

The systematic review of the data in the performance model charts facilitates the generation of the various enablers by enabler categories and their subcategories. For example, there are seventeen subcategories for the analysis of the "awareness, knowledge, and skill" category. These are displayed in Figure 11.3.

Later these captured data facilitate additional analyses. Examples include the validation of any complex interpersonal behaviors and root-cause identification for complex problem solving. These data can also be useful in assessing further the adequacy of enterprise support entities in the overall value chain in ensuring that the right human and environmental asset systems are available at the right place and at the right times to achieve and sustain peak performance.

Other Analyses Potentially Required

While it is my claim that the two sets of data in the performance models and enabler matrices are at the heart of analysis for any improvement effort, there are other analyses, such as financial, competitive, marketplace, strengths or weaknesses, opportunities or threats, legal, ethical, benchmarking, process mapping, activity-based costing, and so on, that may also be necessary at times.

1. Company Policies/Procedures/Practices/Guidelines
2. Laws, Regulations, Codes, Agreements, and Contracts
3. Industry Standards
4. Internal Organizations and Resources
5. External Organizations and Resources
6. Marketplace Knowledge
7. Product/Service Knowledge
8. Process Knowledge
9. Records, Reports, Documents, and Forms
10. Materials and Supplies
11. Tools/Equipment/Machinery
12. Computer Systems/Software/Hardware
13. Personal/Interpersonal
14. Management/Supervisory
15. Business Knowledge and Skills
16. Professional/Technical
17. Functional Specific

Figure 11.3. Enabler Analysis Categories for Awareness, Knowledge, and Skills.

INTRODUCTION TO THE DATA SET USAGES

The purpose of the analysis efforts of performance modeling and enabler analysis is to generate data and insights regarding performance-improvement potential and to assist in identifying the probable improvement levers. Performance-improvement initiatives can then be better planned, costs estimated, and the return on investment more accurately estimated before large investments in time and money are made.

Three Performance Variables That May Need Changing

With this approach, performance-improvement efforts take into account the following three major components of performance to leverage improvement:

- The process itself
- The enabling human assets
- The enabling environmental assets

The understanding of the ideal and actual for these three components is crucial, as any two or all three may be in need of improvement to leverage overall performance. These improvement levers are determined after the analysis has been completed and the ROI has been estimated for various improvement scenarios.

It may be that the process and human assets are fine, but if three-fourths of the performers lack one of the proper environmental assets, productivity will suffer. Imagine three-fourths of a company's loggers with dull saw blades due to budget constraints.

Process Design and Redesign

Process design and redesign are targeted at improving error reduction, cycle time reduction, and cost reduction. In other words, the goal is to be better, faster, and cheaper. Tools and techniques used in process design and redesign include process mapping, value stream mapping, statistical process control, process simplification, process automation, activity-based costing, and so on. Not all of the enterprise's systems or processes have to always be in tight statistical process control to produce the required outputs and deliverables necessary to achieve peak performance, but some do. Control will not make up for a bad business plan or reconcile with other conflicting goals within the enterprise. But it is still a critical component for actualizing the business plan. The stakes are high for high-impact processes, and the failure of a core business process is usually not a viable option, for it can result in the overall decline or death of the enterprise.

The performance model provides an illustration of both ideal process performance and actual process performance via its gap analysis, and can provide the basis for the targeting of improvement resources for various interventions, including design and redesign of the process itself. Either the process is designed to meet its current or future metrics, reflecting the balanced requirements of its many stakeholders, or it needs to be redesigned to do so. This is always the starting point: the process itself.

Human Asset Management Systems Changes

The human asset management systems (HAMS) provide the right human assets to the right processes at the right time and in the right quantity to enable the enterprise to operate at peak performance, as demonstrated by the master performers. Those HAMS are typically owned or shared with the human resources function and include

- Jobs and organization design systems
- Staffing and succession planning systems
- Recruiting and selection systems
- Training and development systems
- Appraisal and performance management systems

- Compensation and benefit systems
- Rewards and recognition systems

These human asset management systems must be aligned or realigned with the requirements of the enterprise processes and produce worthy outputs, as judged as appropriate inputs by the downstream customer and other process stakeholders. The HAMS are in place within the enterprise to ensure that human assets are in place with the following

- Awareness, knowledge, and skill
- Physical attributes
- Intellectual attributes
- Psychological attributes
- Personal values

Not all of the HAMS's processes have to always be in tight statistical process control to produce the required outputs and deliverables necessary to achieve peak performance, but some do. It is always situational.

Environmental Asset Management Systems Changes

The environmental asset management systems (EAMS) should provide the right nonhuman environmental assets to the right processes at the right time and in the right quantity to enable the enterprise process to operate at peak performance. If they do not, they will need to be improved to ensure that their own processes have the right human assets performing at peak levels and that they have the right environmental assets. The EAMS include

- Data and information systems
- Material and supply systems
- Tools and equipment systems
- Facilities and ground systems
- Headcount and budget systems
- Culture and consequence systems

Ownership of the EAMS varies to a much greater extent than for the HAMS. The ownership for the various types of data outputs, tangible and intangible, that become inputs further downstream is voluminous and is therefore difficult to ascertain quickly with 100 percent certainty. And not all of the EAMS's processes have to always be in tight statistical process control to produce the required outputs and deliverables necessary to achieve peak performance. The situation will again dictate what is necessary.

Next, we'll cover the process steps for producing our two data sets, the performance models and the enabler matrices.

THE PROCESS OF MODELING MASTERY PERFORMANCE

The process of modeling mastery performance involves first creating a segmentation of the overall performance and second, gathering and documenting details about each segment of performance.

In my experience, I have found it beneficial to model mastery performance in a group process in which eight to twelve master performers are brought together to generate a consensus model of mastery. It is best when the group is handpicked politically. This will be discussed in more detail later.

Establishing Areas of Performance

The first step of performance modeling is to establish the areas of performance (AoPs). AoPs can be one or both of the following: (1) "chunks" of the job, (2) "chunks" of the multiple enterprise processes within which most performers must perform. AoPs segment a job, process, or both for in-depth scrutiny. AoPs create a *systems* framework and frames of reference for all other data to be gathered and analyzed. Two examples follow; the first is an example of AoPs for a store manager at a convenience store (see Figure 11.4), and the second example is for an account representative (see Figure 11.5).

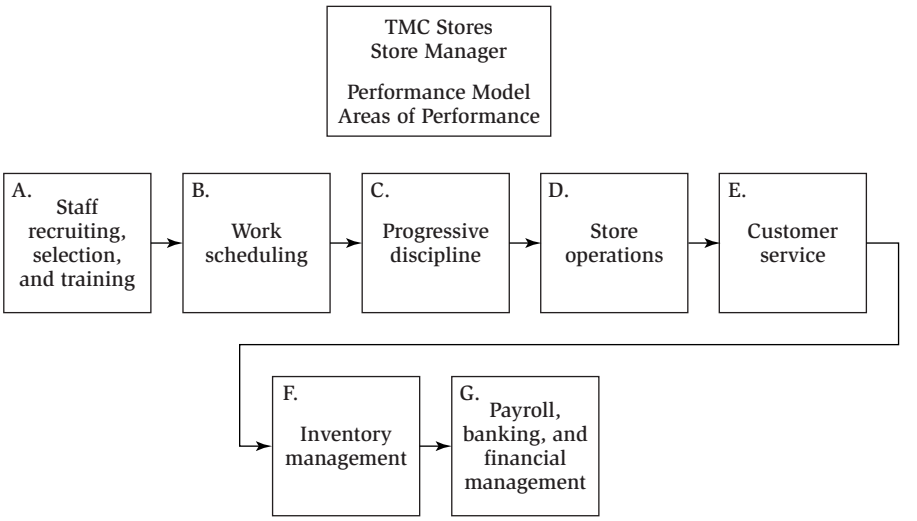

Figure 11.4. Areas of Performance for a Store Manager.

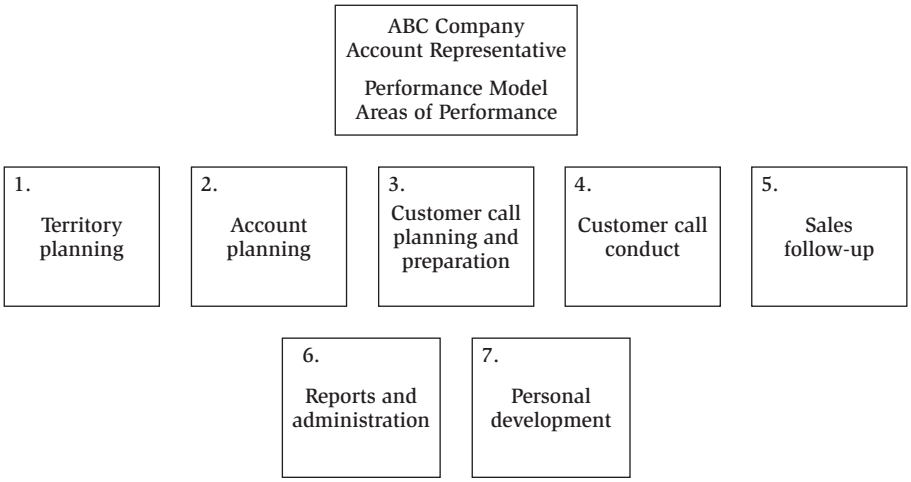

Figure 11.5. Areas of Performance for an Account Representative.

Creating Performance Model Charts

The performance model is created by obtaining the information described in the following lists and then documenting the answers on the performance model (see Figure 11.2).

The left half of a performance model chart describes *ideal* performance. This information includes

- The area of performance (AoP)
- Outputs produced and their measures, per AoP
- Tasks performed, per output
- Roles and responsibilities, per task

The information in the right half of a performance model chart captures and articulates *actual* performance via a gap analysis, and includes

- Typical performance gaps in which standards for measures at any level are *typically* not being met by job incumbents
- Probable causes of those typical performance gaps
- Differentiation of those probable causes into one or more of three categories of deficiency:

  dE: deficiency of environmental support

  dK: deficiency of knowledge and skills

  dI: deficiency of individual attributes and values

THE GOAL AND PROCESS OF ENABLER ANALYSIS

The goal of enabler analysis is to systematically derive the enablers of mastery performance and then document them on the enabler matrices. The enabler items captured are those that the analysis team of master performers and subject-matter experts (SMEs) believes lead to and enable mastery performance. These are enabler items that are not just *thought* to be needed but are *known* to be needed, by a consensus of master performers.

The enabler matrices link each enabler item back to the AoP or to the AoP output it enables as documented in the performance model. Thus, the performance model helps to ensure that the discrete enablers in the various enabler matrices are truly performance relevant.

Establishing Enabler Categories

The major categories for enablers are listed and defined in this section. Note that not all categories may be appropriate for your analysis effort, depending on the charter of your assignment and the intent of your project. It is better to adapt rather than adopt this listing for your situation. It is also good to gather only what you know you will definitely need downstream. Otherwise, you will be caught up in analysis paralysis; an attempt akin to boiling the ocean for a cup of tea.

Human Assets Categories. Awareness, knowledge, and skills come in many types and varieties. Further complicating the situation, one performer might need to be aware only of what other performers need to know, while another group of performers may need to obtain an actual skill level.

Physical attributes include factors such as the five senses: sight, hearing, touch, taste, and smell, as well as height, weight, strength, endurance, and so on. Psychological attributes include factors such as positive attitude, aggressiveness, risk taking, cautiousness, detail orientation, big-picture orientation, and so on. Intellectual attributes can include factors such as conceptual thinking, concrete thinking, strategic thinking, process thinking, and so on. Values can include customer satisfaction orientation, teamwork, diversity, fairness, honesty, work ethic, family, and so on.

Environmental Assets Categories. In performing their duties, job holders consume and use numerous information resources and tangible assets. These resources and assets are organized and disseminated through managed structures that have rules and regulations that govern their use.

- *Data and information:* include all of the work orders and instructions, the policies or procedures, and all data or information needed to enable job holders to perform

- *Materials and supplies:* provide all of the materials and supplies needed to enable job performance
- *Tools and equipment:* provide the tools, equipment, machinery, and vehicles needed to enable performers to perform at a level of mastery
- *Facilities and grounds:* provide the buildings, grounds, and facilities such as utilities for communications, power, water, and so on, needed to enable performance
- *Financial systems:* provide the capital and expense budgets and the headcount budgets to management, all of which are needed to enable and support job holders in performing
- *Culture and consequences:* provide and reinforce the enterprise cultural norms or goals, and all of the management reinforcements and extinguishments needed to encourage or discourage performance

Creating Enabler Matrices Charts

The process of systematically deriving the enablers uses a subset or adaptation of the list of predefined enabler categories and subcategories. Additional data points are gathered for each enabler item on the matrices (see Figure 11.6).

The data in the columns of the knowledge or skill matrix are best captured live by the facilitator, ideally during the same three-to-five-day meeting in which the performance model is built and with the same analysis team members. To develop enabler matrices, enabler items are identified via a review of each page of the performance model and then listed on the enabler matrices chart. Each enabler is linked back to each of the AoPs or outputs that it enables.

The *select and train* column on the human asset enabler matrices, for the awareness, knowledge, and skill category, which varies slightly from the other human- and environmental-asset enabler matrices, differentiates those items that are always attended to by the selection processes and not by the training processes. The analyst marks training items with a T and selection items with an S. The *criticality* column gives an assessment of the importance of the enabler item in terms of enabling mastery performance. The analyst marks each item as high (H), medium (M), or low (L) criticality as the analysis team consensus dictates. The *difficulty* column indicates how hard the analysis team assesses it will be for the typical targeted performer to grasp the awareness, knowledge, or skill related to this enabler item, or to otherwise acquire the attribute. The analyst marks each item H, M, or L. The *volatility* column is an assessment of the future amount of maintenance required by the enabler item. Volatility affects packaging, deployment, or distribution strategies for addressing the enabler gaps. The analyst marks this column H, M, or L.

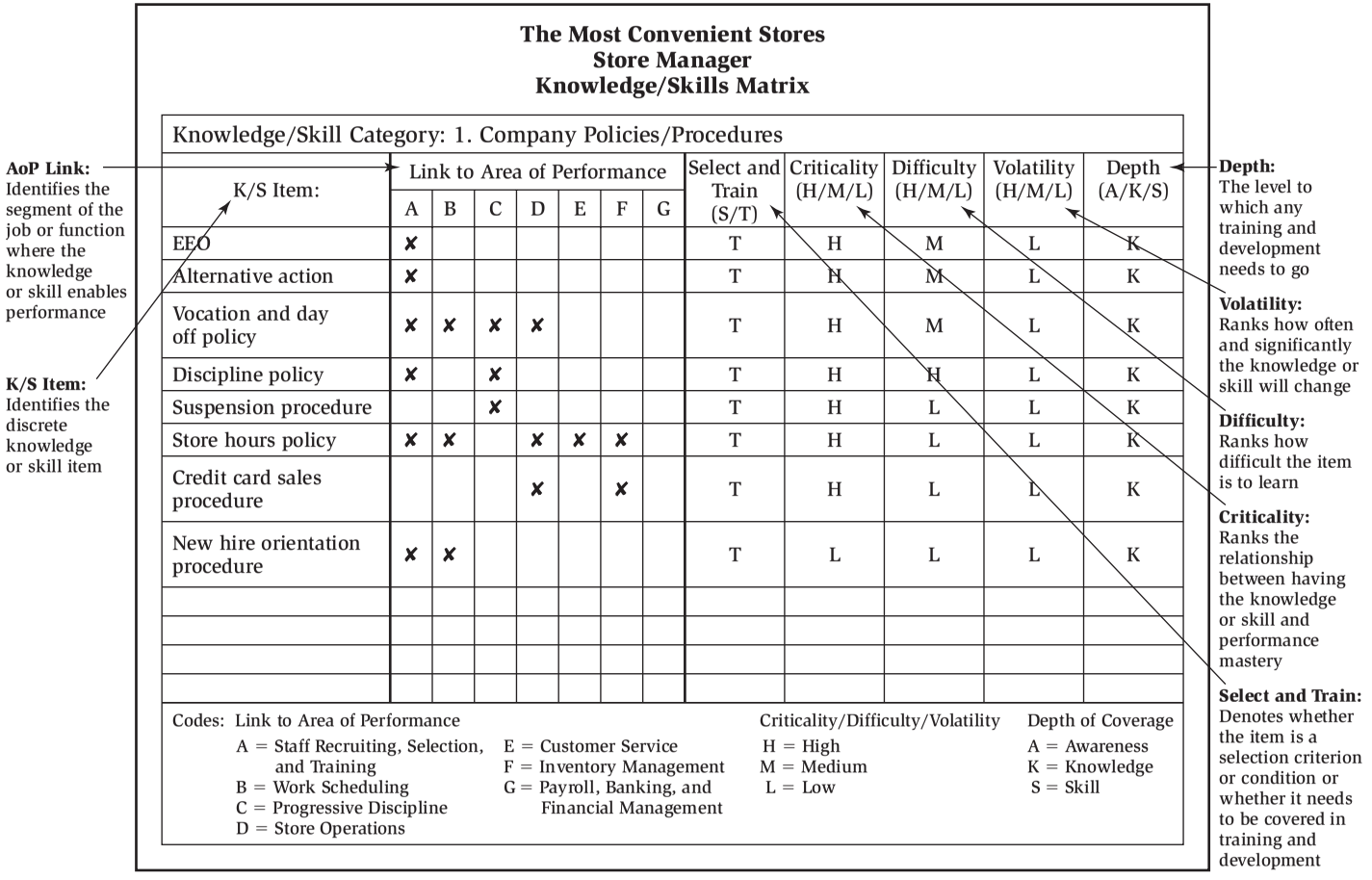

Figure 11.6. Enabler Matrices Data Sets.

The final column on the human-asset enabler matrices, for the awareness, knowledge, and skill matrices, varies from the remaining human-asset matrices. Those for all of the environmental-asset enabler matrices indicate the depth needed by the HAMS within their systems or processes to ensure that the enabler item is sufficiently addressed. The analyst and team may decide that the appropriate depth is at the awareness level (A), the knowledge level (K), or the skill level (S) for the awareness or knowledge or skill category and H, M, or L for the other human-asset categories of physical attributes, intellectual attributes, psychological attributes, and personal values; and the same applies for all of the environmental asset categories. The data are then documented as appropriate for their downstream use.

THE PARTICIPANTS OR TEAMS AND THEIR ROLES

Rather than individual interviews or observations, a team approach to conducting the analysis efforts of modeling mastery performance and systematically deriving the enablers not only saves time but also creates ownership of the results by the participants. However, some situations do not lend themselves to assembling a group of master performers and others for a three-to-five-day meeting. The nonteam approach is discussed at the end of this section. In thinking about the nonteam approach, imagine the analyst doing all of the work of the analysis team alone as described later on. Furthermore, think about the analyst then having to sell the draft analysis outputs and conclusions to management and other key stakeholders, one person at a time. And then, imagine iterating through that process several times in an attempt to reconcile to everyone's satisfaction the specific words used. In short, it is best to choose the team approach when feasible.

The Team Rationale and Approach

The personal witness of most observers concerning what happens in the real world is quite often neither accurate nor deep enough. Many peers and clients have found that too often too partial a view is produced, informed more by the observer's ignorance than knowledge of the total performance context, the players, the rules, and the decision-making rubrics. This is especially a concern in complex situations.

The observation and documentation of the steps in the conducting of a credit card transaction by a cashier, for example, are not very complicated. However, much more complex are observing and documenting the activities of a product team leader who is facilitating a diverse team that is producing a business case and new product-development plan for eventual investment of $3 billion in a new automotive truck platform, then managing this team as well as additional teams through the implementation of the plan. Observing the latter example is

very impractical if not almost impossible. And in reality, no one individual has all the information and insight for such complex cases. Furthermore, individual perceptions will differ depending on the knowledge and experience of the observer. If a mix of participants is involved in the analysis processes, group synergies will evolve, resulting in much greater detail and more accuracy than is feasible with a single observer.

If the participants are all credible and recognized as master performers, and they are selected based on their demonstrated abilities in meeting the appropriate business metrics for their roles, the resulting analysis data sets that are produced by their team will be credible. Who else would possibly know what complex mastery performance is, other than those who do it and demonstrate their mastery consistently? Also, who could credibly challenge one master performer's view other than another master performer?

However, it must be acknowledged that complex interpersonal behaviors may require additional validation for some downstream improvement efforts such as in training and development. It is true that individual master performers are often at a loss in explaining what they do. They tend to perpetuate myths garnered from their community of performers or from their own personal reflections on their performance. However, when they are put into a group process with their peers, with the direction of a good facilitator who knows how to both control and use those big egos in the room, a very rich, organized, and detailed picture of performance emerges. Furthermore, the creators of the picture increase their level of buy-in and ownership at each step of its development.

Any additional analyses, observations, and validations necessary can happen in the follow-up projects to design and develop the various interventions specified in the solution set. Significant improvements rarely involve one-dimensional solutions.

In creating the teams, it is important to ensure a diverse team of participants at two levels. A project steering team (PST), named appropriately to its task, should be formed to address the improvement effort from the business perspective, representing the enterprise's key management and stakeholders. An analysis team should be formed, handpicked by the PST, to include both master performers and SMEs.

Master performers are experienced in the very process context, rules, tasks, and knowledge of other players involved in the enterprise processes being targeted for improvement. SMEs are those who are knowledgeable in the theory of the process and tasks or some relevant enabler for it, but do not *do it* in their current job assignment.

Additionally, your team might benefit from involving supervisors, managers, and perhaps novice performers. While master performers are important because they have years of experience and understand the intricacies of performing the

tasks on a daily basis, novice performers might be important to the team precisely because the tasks were recently new to them. Their perspective will often differ from older and wiser master performers as to what is needed and when.

Project Steering Team

Arguably the most important of the two teams is the project steering team (PST). It is composed of customers and other key stakeholders. The keys are recruiting, organizing, and communicating with the PST leader and its members. The successful selection and formation of the PST ensures better communication with the members both individually and collectively regarding project activities and results. PST members are charged with carefully considering the requirements of the project and then selecting members for the analysis team, assuming they don't kill the improvement initiative. After all, it is still a business decision to pursue improvement. Also, the project steering team is typically responsible for

- "Owning" the project
- Reviewing the project plan and directing the project
- Reviewing and providing feedback for all project documents and outputs
- Approving or redirecting the implementation plan
- Selecting all participants for subsequent or downstream phases of the performance-improvement project

The project manager uses the PST to test ideas and obtain sanctioning for all project activities. The members of the PST meet on a planned basis to review, debate, challenge, and modify the project plan. Ideally, the PST is composed of members who have a significant stake in the outcomes or processes for conducting the improvement project. Often, the most important role on the PST is that of chairperson.

The PST chairperson often becomes the owner of the project, the person with ultimate responsibility and accountability for making improvement happen. The project steering team chairperson is the key customer and interface with stakeholders. Early in the project, the chairperson provides key input for the development of the project plan and helps to identify other individuals who should be engaged up front in the conduct of the project.

In selecting candidates for the project steering team, a general rule is to identify individuals who might come forward at some later stage of the project and question or take exception to what is occurring. It is better to have sought their participation on day one of the project than to have these individuals raising

questions or being nonsupportive at later stages of the project. Having them join the project after it is under way is less than ideal.

How many members should be on the PST? Generally, with fewer members, things move faster. However, with more members, there is less likelihood that any one individual could negatively influence the project, and a greater shared understanding can be achieved among diverse stakeholders regarding facts, opinions, biases, and so on. The number is a balancing act. Too few can be problematic, as can too many.

Establishing a formal PST ensures that key stakeholders "buy in" to the project plan politically, that it makes business sense, and that the outputs and planned tasks will be supported during and after the project. Having the PST members handpick all other team members goes a long way toward ensuring that the outputs produced by the various teams have credibility and political acceptability. That is extremely important because the data to be produced are voluminous, and the PST will be probably not be able to do a thorough review. They will need to rely on the inputs of others, the handpicked master performers. For them to choose people they have confidence in is akin to the idea that it is better to build in quality early than to attempt to inspect it in later. The PST is empowering that analysis team.

Analysis Team

The analysis team is used to define performance requirements and the enablers. The key responsibilities of the analysis team are to

- Provide input in analysis meetings regarding the missions, key outputs and metrics, tasks, and roles and responsibilities of ideal performance
- Provide input in the analysis meetings regarding the typical gaps in performance, such as outputs not meeting targeted metrics, as well as probable causes of the gaps and an assessment of the root causes
- Provide input in the analysis meetings regarding all human and nonhuman enablers required for mastery performance

The analysis team typically has between six and twelve members. Eight seems to be the best number. Fewer than six sometimes negates the team approach, and more than twelve becomes unwieldy in group forums. Ideally, the PST handpicks members of the analysis team, seeking

- Mastery of performance
- Credibility with the project steering team
- Credibility with the target audience they represent

The analysis team should be composed of members who can articulate and come to a consensus regarding the performance requirements of the job, task, or process. Collectively, team members will know the key enabling factors that affect their and others' performance. Individual members will themselves be master performers or subject-matter experts.

Individual master performers are known for their current expertise in today's performance situation, not the knowledge they had three years ago before they took a headquarters staff job. They have good reputations and are credible with their management and peers. They are often called on to help others who are in trouble in the organization. They are often peer coaches for the organizations' novices. They usually have strong egos and strong personalities, and facilitating them can often be a challenge for the meeting facilitator. These challenges need to be met, because the master performers' participation and input are critical to the success of the analysis effort.

Subject-matter experts are people who know a great deal about some aspect of the job or are knowledgeable about relevant issues, procedures, policies, tools, or problems. SMEs most often are knowledgeable about some aspect of performance, but not all of it. Typically they are not master performers unless they just recently have been performing the targeted performance to a level of mastery as recognized by the organization and their peers. SMEs often do *not* really know how to get the job done when faced with today's real-world barriers and issues, when to do a workaround, or when and how to plow right through barriers.

Downstream Teams for Performance-Improvement Design and Development

There are other teams that may be involved downstream of the up-front analysis effort. Often they include

- Design teams
- Development teams
- Pilot test teams
- Roll-out teams

The Nonteam Approach

As the goal is to capture consensus data, a nonteam approach involves interviews, observations, and then documentation of findings in a first draft report. Then a redo loop of reviews with the sources begins. This process is repeated until you achieve a consensus or run out of time and resources. It is much faster and easier, and perhaps even less expensive, to bring all the right people together in a team approach to create and approve the data sets.

THE IMPACT OF THE DATA ON THE ENTERPRISE PROCESSES

The impact on the enterprise processes from the data sets generated can be very specifically targeted. Again, there are three areas to consider for improvement:

- The process itself
- The enabling human-assets systems
- The enabling environmental-assets systems

Process Design and Redesign

Process design and redesign are targeted at improving one or more of the following: error reduction or elimination, cycle time reduction, and cost reduction. Tools and techniques used in process design and redesign include process mapping, value stream mapping, statistical process control, process simplification, process automation, activity-based costing, and so on. The goal is to simplify without increasing short-term or long-term negatives in either costs or cycle times.

This is done for the targeted process or processes deemed needful of improvement, *and* for those upstream value stream processes that also need to change and improve for the benefit of the downstream, targeted process. Those upstream value stream processes can and do include the HAMS and the EAMS.

The Impact of the Data on the Human-Asset Management Systems

The lack of any of the following enablers in the enterprise processes will typically be due to a failure of the human-asset management system:

- Awareness, knowledge, skills
- Physical attributes
- Psychological attributes
- Intellectual attributes
- Values

These human factors and enablers need to be present to some degree to meet the specific process needs. Meeting these needs helps manipulate the environmental factors and enablers, which in turn help to produce the desired outputs. These outputs are inputs to some downstream processes, including the process being targeted for improvement efforts. A potential "root cause" when any single HAMS process is deficient is that its own processes, that is, its HAMS and EAMS processes, or a combination of these, are themselves deficient. Again, the HAMS are

- Organization- and job-design systems
- Staffing and succession systems

- Recruiting and selection systems
- Training and development systems
- Performance appraisal and management systems
- Compensation and benefits systems
- Rewards and recognition systems

The human-asset management system places humans into processes in concert with the process needs. The performance model will be our first clue that improvement may be needed in the HAMS.

Organization- and Job-Design Systems Changes. The organization and job-design and redesign systems provide a set of job designs and organizational systems that are conducive to the needs of the process in its current and future volume. They are configured for the abilities and capabilities of the human performers who will be selected into those jobs, given the enabling environmental support available in the locations where the performers will perform. Data from the performance model that would suggest that there might be a need for a follow-up improvement effort include environmental deficiencies (dEs) on the performance model suggesting task overlap or gaps with other jobs, teams, and so on; lack of role clarity; or lack of clear expectations. The system would use the performance model and its data structure to document the process outputs for job, team, department, and function definitions and designs.

Staffing and Succession Systems Changes. Staffing and succession systems provide the strategies, plans, and mechanisms for staffing-plan development and succession strategies, plans, and mechanisms necessary to populate the organization's jobs with people in an efficient manner, providing career and growth opportunities where feasible. Data from the performance model that suggest that there might be a need for a follow-up improvement effort include dEs on the performance model suggesting lack of time whose root cause may be the lack of people, staff, and resources, or knowledge, and skill deficiencies (dKs) on the performance model in combination with dEs suggesting that the learning curve is steep for new performers.

Recruiting and Selection Systems Changes. The recruiting and selection systems provide the strategies, plans, and mechanisms for first recruiting and then selecting the best candidates in the right quantities, consistent with the staffing and succession plans, and populating the organization's jobs. Data from the performance model that would suggest that there might be a need for a follow-up improvement effort include dKs on the performance model suggesting that performers in the job are not competent in specific aspects of the job due to

current knowledge or skill competence. New-to-the-job staff members, including those from external sources and from internal promotions and other internal personnel movements, either come up to speed in a reasonable time, or they do not. It might be the people selected for the job who do not have the capacity to acquire and use the new skills or perform using the correct interpersonal behaviors in complex situations.

Training and Development Systems Changes. The training and development systems provide the strategies, plans, and mechanisms to train and develop the new hires and incumbents consistent with performance requirements in the organization's jobs, as they have been designed. Data from the performance model that would suggest that there might be a need for a follow-up improvement effort include dKs on the performance model suggesting lack of knowledge and skill.

Performance Appraisal and Management Systems Changes. The performance appraisal and management systems provide the strategies, plans, and mechanisms for appraising the job task performance and managing of problems and opportunities, as appropriate and consistent with laws, regulations, codes, and enterprise policies or procedures. Data from the performance model that would suggest that there might be a need for a follow-up improvement effort include dEs on the performance model suggesting lack of timely feedback.

Compensation and Benefits Systems Changes. The compensation and benefits systems provide the strategies, plans, and mechanisms to ensure that the total pay and benefits attract and retain competent staff appropriate to the various labor markets for the various locations of enterprise operations, and are consistent with laws, regulations, codes, and labor contracts as well as enterprise policies or procedures. Data from the performance model that would suggest that there might be a need for a follow-up improvement effort include dEs on the performance model suggesting turnover whose root cause may be the lack of timely feedback or unfair evaluations or rewarding of others.

Rewards and Recognition Systems Changes. The rewards and recognition systems provide the strategies, plans, and mechanisms for providing nonmonetary and small monetary rewards and recognition to appeal to the ego needs of staff that are consistent with laws, regulations, codes, and labor contracts as well as enterprise policies or procedures. Data from the performance model, enabler matrices, or both that would suggest that there might be a need for a follow-up improvement effort include dEs on the performance model suggesting lack of rewards and positive consequences for performance to standards, or individual attribute and value deficiencies (dIs) on the performance model suggesting that the individuals are not motivated enough by the available reward system.

The Impact of the Data on the Environmental-Asset Management Systems

Processes must have a balance between human assets and environmental assets. These two complementary sets of assets need to be in place to ensure value-adding processes. Human assets work with or manipulate the environmental assets in order to *process* an output. One cannot effectively improve human assets without an understanding of the environmental factors in which humans perform. The lack of any of the following enablers in the enterprise processes will typically be due to a failure of the environmental-asset management system (EAMS):

- Data and information systems
- Materials and supplies systems
- Tools and equipment systems
- Facilities and grounds systems
- Financial systems
- Culture and consequences systems

Data and Information Systems Changes. The data and information systems provide all of the work orders and instructions, the policies and procedures, and all of the data or information needed to enable job holders to perform at a level of mastery. Data from the performance model that would suggest that there might be a need for a follow-up improvement effort include dEs on the performance model suggesting lack of information or data, poor timeliness of the data, or erroneous data.

Material and Supplies Systems Changes. The materials and supplies systems provide all of the materials and supplies needed to enable jobholders to perform at a level of mastery. Data from the performance model and enabler matrices that would suggest that there might be a need for follow-up improvement efforts include dEs on the performance model suggesting lack of adequate or correct types of materials or supplies.

Tools and Equipment Systems Changes. The tools and equipment systems provide the tools, equipment, machinery, and vehicles needed to enable jobholders to perform at a level of mastery. Data from the performance model and enabler matrices that would suggest that there might be a need for a follow-up improvement effort include dEs on the performance model suggesting lack of adequate quantities or quality of tools, equipment, machinery, vehicles, and so on.

Facilities and Grounds Systems Changes. The facilities and grounds systems provide the buildings, grounds, and facilities or utilities for communications, power, water, and so on needed to enable jobholders to perform at a level of mastery. Data

from the performance model and enabler matrices that would suggest that there might be a need for a follow-up improvement effort include dEs on the performance model suggesting lack of or inadequate performance setting and environment such as proper lighting, temperature, air quality, storage, and so on.

Financial Systems Changes. The financial systems provide the capital and expense budgets as well as the headcount budgets to management that are needed to enable and support jobholders in performing at a level of mastery. Data from the performance model and enabler matrices that would suggest that there might be a need for a follow-up improvement effort include dEs on the performance model suggesting lack of staff or budget, or dKs on the performance model whose root cause would be lack of budget resources or time for training.

Culture and Consequences Systems Changes. The culture and consequences systems communicate and reinforce enterprise cultural norms and ensure that all of the management reinforcements and extinguishments needed are in place to encourage or discourage jobholders and enable them to perform at a level of mastery. Data from the performance model and enabler matrices that would suggest that there might be a need for a follow-up improvement effort include dEs on the performance model suggesting lack of any or enough rewards or positive consequences for performance to standard as well as real or imagined punishment for doing the work to standard. Other problems would be tolerance by management and peers for inappropriate or poor performance.

SUMMARY

The intent of this chapter is to share a proven approach for quickly developing a consensus model of mastery performance and then systematically deriving the human and environmental enablers required to support that mastery performance, the end purpose being the development of the performance model to assess the adequacy of an organization's current state, future state, or both. The process involves two key data sets: performance models and enabler matrices. Respectively, they capture the model of mastery performance and the enablers of that mastery.

The performance model and the enabler matrices are two linked sets of data that are produced for the current-state view by current master performers who have proven that high performance levels are attainable. Three performance variables are affected:

- The process itself
- The enabling human assets
- The enabling environmental assets

Key players and teams that are essential to the process are the project steering team, which is formed to address this improvement effort from the business perspective, and an analysis team that includes both master performers and subject matter experts. The players in these teams, with the models and data that they produce, can undertake performance-improvement initiatives that are cost effective and will yield a return on investment. This will help organizations to be competitive in today's global economy.

Resources

Rummler, G. A., and Brache A. (1995). *Improving performance: How to manage the white space on the organization chart.* San Francisco: Jossey-Bass.

Smith, K. R. (2001, Summer). On watch from the bridge. *Pursuing Performance, 4*(2), 4–5. Retrieved October 17, 2005, from www.eppic.biz/resources/res_newsletters.htm.

Smith, K. R. (2002, Spring). Laying the foundation for great human asset management systems (HAMS). *Pursuing Performance, 5*(1), 41–43. Retrieved October 17, 2005, from www.eppic.biz/resources/res_newsletters.htm.

Svenson, R. A., Kennedy, K. M., and Wallace, G. W. (1994). *The quality roadmap.* New York: Amacom.

Wallace, G. W. (2000). *Lean-ISD.* Naperville, IL: CADDI Press.

Wallace, G. W. (1999–2000, Winter). The AoP framework for management. *Lean-ISD, 3*(1), 1, 7–9. Retrieved October 17, 2005, from www.eppic.biz/resources/res_newsletters.htm.

Wallace, G. W. (2000, Fall). T&D systems view: 10 and 11 o'clock. *Lean-ISD, 3*(4), 19–22. Retrieved October 17, 2005, from www.eppic.biz/resources/res_newsletters.htm.

Wallace, G. W. (2000, Fall). Human asset management planning and management. *Lean-ISD, 3*(4), 27–28. Retrieved October 17, 2005, from www.eppic.biz/resources/res_newsletters.htm.

Wallace, G. W. (2000, Winter). Environmental asset planning and management. *Lean-ISD, 3*(5), 41–43. Retrieved October 17, 2005, from www.eppic.biz/resources/res_newsletters.htm.