Competency modeling is a process of defining the skills, knowledge, and attributes that performers need to be successful (Dubois, 2002). During the last 30 years many organizations have used competency modeling as the basis of training, development, and human resource management (Marrelli, 1998; Dubois, 2002). The stated purpose of competency modeling is to define the skills, knowledge, and attributes that make certain people successful, and then to hire other people who have those qualities or develop people so they do, often replacing or reassigning those who rate lowest on the defined competencies (Smart, 1999). The rationale is that once everyone is hired, developed, and trained to possess key competencies (or eliminated if they do not), then overall performance and ultimately the bottom line will improve. But how do we know if the competencies correlated with individual success are both necessary and sufficient for improving organizational success and the bottom line? What’s missing in this approach is a concrete and verifiable link to what really matters: the individual outputs or accomplishments that lead to achievement of organizational goals.

Competencies may enable people to achieve success, but do not ensure it. Consider the use of tests based on competencies or needed skills and knowledge. Often people who pass such tests are less than successful on the job (Hale, 2000). This discrepancy may be due to the fact that while test scores might reflect attainment of competencies, they do not assess the actual job performance requirements—what people actually have to do and produce to be successful on the job (Hale, 2000). Does this mean that competencies are not important? No, although there is a missing link between competencies and business goals. We think that missing link is competence.

Thomas Gilbert defined competence as the “function of worthy performance, which is a function of the ratio of valuable accomplishments to costly behavior” (1996, p. 18). Worthy behavior is defined as behavior producing accomplishments that generate more value than they cost the company to produce. In short, we define competence as achievement of results that contribute to business goals. A competence model, therefore, is an organized framework that identifies the set of accomplishments a performer must produce to achieve his or her job’s mission and the business goals associated with it, plus the critical behavior needed to produce those accomplishments.
Success comes from competence. Competence cannot be measured by attainment of skills and knowledge, by a simple test, or by any sort of survey or rating scale. Instead, competence is measured by accomplishment of results that contribute to organizational success. In this article we present a methodology for developing competence models that help organizations tie individual performance to the bottom line through specific individual and group accomplishments; we also provide a foundation for building, supporting, and maintaining desired competence levels.

Problems and Pitfalls of Traditional Competency Modeling

Many performance improvement consultants have identified problems with competency models over the years (Esque and Gilbert, 1995; Marrelli, 1998; Thomas, 2000; Langdon and Marrelli, 2002). Some of the problems include:

- **Competency models are based on behaviors, not accomplishments.** Competencies are behaviors or (more often) abstract categories of behavior. But even combinations of skillful behavior that reflect a variety of competencies might occur without generating any valuable accomplishments. Salespeople, for example, might be able to exhibit different types of behavior learned in sales training yet fail to produce desired sales outcomes. On the other hand, by specifying business results (e.g., repeat business) and key accomplishments required to produce them (e.g., satisfied customers, retained customers), we create a much clearer path for trainers, managers, and sales representatives themselves to contribute to the bottom line. There are literally dozens of behaviors and competencies required for the achievement of key accomplishments that, by themselves, will never lead to the desired business result of repeat business. By clarifying desired accomplishments, however, it is possible to put together the right combinations of behavior to produce results.

- **There is often disagreement about the process and the terms used to define competencies** (Marrelli, 1998). There is huge variation in how competency modelers work to define competencies and link those competencies to individual and organizational performance. Some developers simply select competency names and definitions from lists to create their models, while others conduct extensive field research to identify behavior that "illustrates" the competencies. One model might define a given competency differently than another, use a different analysis process, or link different competencies to different success factors. In Langdon and Marrelli’s words, “Identifying job competencies has traditionally used more art than science” (2002, p. 16).

- **Competencies are often broadly defined, ambiguous, and subjective.** Rarely are they specific or measurable. Examples of commonly used competencies include: good communicator, business acumen, action oriented, approachable, pragmatic, creative, and a team player. The resulting problems of analysis and application are numerous. One obvious difficulty is that such competencies are open to wide interpretation, which can lead to confusing variability in evaluation and performance. Competency modelers have attempted to solve this problem by adding behavioral indicators to each competency. Behavioral indicators do provide more description of what a competency “means,” however, the focus is still on behavior instead of business results or individual accomplishments required. In addition, behavioral indicators are often written as subjective, non-measurable descriptions of desirable behavior instead of objective measurable results required. An example of a behavioral indicator for the competency entrepreneurship taken from an actual competency model is: “applies initiative and drive to find and exploit potential sales opportunities.” Such variability in interpretation lays a weak and uncertain foundation for managing performance, measurement, feedback, and compensation. How can management successfully measure, develop, and provide incentives on something that is an interpretation of behavior, not objective or measurable? And how do performers know what they really have to do to be successful?

A Different Approach

How Behavior Generates Business Results

From eating and sleeping to planning, presenting, meeting, deciding, and writing—behavior occurs constantly. Organizations spend significant portions of their financial and human resources developing and supporting the right behavior and discouraging the wrong behavior. They do this by

<table>
<thead>
<tr>
<th>Behavioral Influencers</th>
<th>Behavior Tasks</th>
<th>Accomplishments Outputs</th>
<th>Business Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training</td>
<td>Asking</td>
<td>Proposals</td>
<td>Revenues</td>
</tr>
<tr>
<td>Job aids</td>
<td>Talking</td>
<td>Business plans</td>
<td>Market penetration</td>
</tr>
<tr>
<td>Incentives</td>
<td>Meeting</td>
<td>Letters</td>
<td>Return on Investments</td>
</tr>
<tr>
<td>Feedback</td>
<td>Deciding</td>
<td>Satisfied customers</td>
<td>Profits</td>
</tr>
<tr>
<td>Tools</td>
<td>Writing</td>
<td>Signed deals</td>
<td>Cost reduction</td>
</tr>
<tr>
<td>Coaching</td>
<td>Presenting</td>
<td>Skills transferred</td>
<td>Reduced environmental hazards</td>
</tr>
<tr>
<td>Goal-setting</td>
<td></td>
<td>New jobs generated</td>
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<td>Job design, etc</td>
<td></td>
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</tbody>
</table>

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Figure 1. Process of Achieving Business Results.
investing in things that influence behavior. Gilbert's (1996) observation that behavior by itself is not valuable is an important consideration to keep in mind. It is only when behavior components link together to generate accomplishments, which link together to create business results, that behavior actually becomes valuable. As Esque and Gilbert (1995) said, "organizations are primarily interested in behavior or activities that have value—that are worthy. The only way to tell if activities are worthy is to look at the outputs that result from them". Figure 1, on page 9, represents the process of achieving business results that shows the relationship between behavioral influences, tasks, outputs, and business results.

<table>
<thead>
<tr>
<th>Input</th>
<th>Processes</th>
<th>Output</th>
<th>Implementation and Application Process</th>
<th>Consequences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizational Goals</td>
<td>ID and confirm Org. and Model Goals</td>
<td>Competence Models</td>
<td>Competence Assessment and Coaching Tool</td>
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</tr>
<tr>
<td>Business Unit Goals</td>
<td>ID Mission of Job and Key Accomplishments</td>
<td>Environment Variables</td>
<td>Curriculum Gap Analysis and Mapping</td>
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<tr>
<td>Job Descriptions</td>
<td>Synthesize and Analyze Data</td>
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<tr>
<td>Skill and Knowledge Competency Models</td>
<td>Validate Models</td>
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<tr>
<td></td>
<td>Implement and Apply</td>
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</tbody>
</table>

**Traditional Approach**

In the traditional approach of generating business results through performance improvement, most companies start in the middle by trying to replicate desirable behavior through means such as training, goal setting, performance support systems, slogans, incentives, coaching, etc. This approach assumes that the behavior that they are replicating will lead to the right accomplishments, which will lead to the right business results. In the absence of careful observation and analysis, this assumption is as likely to be faulty as not.

**Our Approach**

A better approach is to work backwards—with the end in mind. That is, generate business results through increased competence. We start with business results the organization wants to achieve. We work backward to understand what accomplishments and behavior or tasks lead to the achievement of desired business results. With this information it is straightforward to design the right (most cost-effective) behavior influences to create, support, and maintain the behavior that produces the accomplishments necessary to achieve the organization’s desired business results.

**Components of a Competence Model**

Figure 2 shows the process for building a competence model, including inputs, processes, outputs, and applications. The descriptions and definitions of the stages in the process are described below.

- **Organizational Goals**: The financial, customer, internal, and growth aims of an organization—what the organization wants to accomplish. The strategy is how the management of the organization plans to accomplish its goals.

- **Mission**: The purpose of a particular job or function—the ultimate product or service that results from this job and how this product or service contributes to the goals of the organization. In defining the mission of the job, one needs to ask and answer the following questions: Why does the job exist within the organization and how does it help management achieve organizational goals—essentially what is its function in the organization? For example, the mission of a computer game developer is to develop as many of the most successful computer games possible.

- **Key Accomplishments**: Individual performance within a job function, including the work processes followed; the major accomplishments or outcomes that are necessary and sufficient to achieve the job mission; and the related tasks, behaviors, or competencies that link together to
build accomplishments. For example, for a computer game developer to achieve its mission, it would most likely follow a process of high-level accomplishments, such as review market research to determine market demands and needs, develop a design document, design a new game (or a revision of a current game), develop the game according to the design, conduct reviews and revisions of the game, conduct a beta evaluation of the game with a test group, make revisions, possibly send out a copy of the game to select vendors, make final revisions, and finally mass produce the game. Under each accomplishment, there might be sub-accomplishments. In addition to the accomplishments, there will be related tasks (behaviors that contribute to the achievement of the accomplishments), skills, and knowledge that are required to meet each accomplishment.

**Performance Analysis:** An analysis of the environmental and individual factors that enable or prevent competence. According to Thomas Gilbert (1996), there are six factors that are necessary for performance to occur—information, tools and resources, compensation and incentives, skills and knowledge, capacity, and motives. These six factors comprise a system, which creates competence or incompetence. This is his Behavior Engineering Model. We use this model to conduct a performance analysis, which involves both determining the factors required to build, support, and maintain desired competence levels and uncovering the obstacles that prevent desired levels of competence.

**Synthesis and Validation:** Validate the information that you have obtained so far by interviewing and (ideally) observing low and average performers and noting the differences between their performance and that of exemplary performers, interviewing managers and peers to confirm what people have to do to be successful and what differentiates top performers from average and low performers and by having a few top performers and managers review your findings to confirm that what you have is accurate and complete. It is important to note that, as Gilbert (1996) pointed out and we have found, performers usually can’t tell you everything they do, including some of their most important tasks. Thus there is a need to observe, or at least interview them in their working environment so they can show you as much as they can and be prompted by things in their environment to actually remember tools, processes, etc.

**Rollout and Implementation:** Obtain the support of executives and senior managers of the company, work with management team to define worthy interventions, apply the competence models to selected people management systems, evaluate the effectiveness of the performance analysis project and related tools, and plan for updating the models on a regular schedule.

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**Applications and Value**

Building competence models is an important step that organizations can take toward aligning and linking individual results to organizational goals. The value of this work will be diluted, however, if the competence models are not linked to the organizational system. An organizational system is all the functions within an organization that contribute to achievement of the organization’s goals and employees’ competence. These include management, human resources, marketing, and training. To fully leverage the value of competence models, organizational systems can be used to do the following:

- Design hiring profiles and performance assessments to gauge competence levels before hiring.
- Communicate in specific, objective, and measurable terms what people have to do to be successful instead of using hiring profiles, job descriptions, etc., which may be ambiguous and subjective.
- Build certification and assessment tests so that the organization and its clients can be assured that people who are certified really can do the job competently, not just that they have the required skills and knowledge to do it.
- Provide input into the design of specific tools, resources, and training based on known gaps in competence and opportunities for building competence.
- Build tools and resources that support competence rather than hinder it.
- Create incentives for competence instead of behaviors, as the latter may or may not lead to the achievement of business goals.
- Map training curricula and other tools and resources to the required accomplishments detailed in the competence model.
- Build assessment, coaching, and development tools so that managers can assess and provide specific feedback regarding strengths, weaknesses, development opportunities, and direction to specific tools, resources, training, and job assignments based on competence assessment results and tool-curriculum maps.

The value of defining human competence as originally done by Gilbert (1996), and as embodied in what we call competence models, is that it explicitly links the behavior of individuals—through the accomplishments produced by that behavior—to organizational goals and results. By delineating the entire structure of performance—starting with business results and working backward through accomplishments, sub-accomplishments, and behavior—we take the ambiguity and subjective judgment calls out of performance development and management. This always yields more focused, cost-effective performance interventions. Even in the absence of specific interventions, it tells both individual performers and their management exactly what is expected. The cascading effects of this approach as it flows down through
the design of training, performance assessment, coaching, performance support, and other elements in an overall performance system are significant and dramatically more cost effective than what can be achieved through so-called competency modeling.

While the cost and time required for creating a solid competence model might be higher in the beginning, the payoff in the end is substantial and lasting. In general, when we take the time to define clear, consistent expectations, we tend to get more of what we want—more consistently and at lower cost.

Summary

Worthy competence models do the following:

• **Begin with the goals of the organization** and move backward to define what individual performers have to produce and do to achieve those goals.

• **Base models on accomplishments** that are the results that lead to the achievement of organizational goals—not competencies that can be ambiguous, subjective, and disconnected from organizational goals.

• **Follow up with a performance analysis**, which gives a company a blueprint to build, support, and maintain desired competence levels and decrease or eliminate incompetence.

• **Link to the environmental supports to build, support, and maintain desired competence levels**. Once the work processes and accomplishments that are critical and necessary for achievement of organizational goals are defined, it is necessary to link that competence model to the environmental supports that will build, support, and maintain desired competence levels.

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References


Related Readings


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