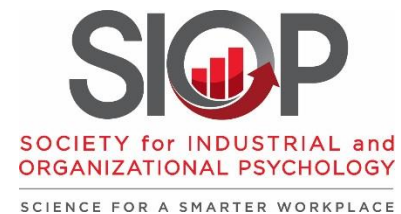


Competency Modeling Documentation

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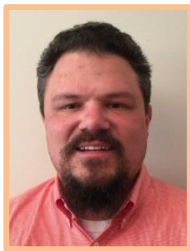
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ABSTRACT

Over the past 40 years, competency modeling has evolved into an essential input tool for human resource and organizational development practices. Documentation of modeling methods, however, is often lacking. This white paper examines why documentation should be considered an essential element of all competency modeling projects and provides a documentation framework that adheres to professional and regulatory guidelines. Thorough and complete documentation reduces legal risk and increases organizational efficiency. Not having a technical report will not necessarily lead to doom in legal proceedings or mean dire organizational outcomes, but having complete documentation will go a long way toward reducing problems.

Competency Modeling Documentation

Over 40 years ago, McClelland (1973) wrote his seminal article on competencies, beginning the competency movement. Competencies have since grown into a useful input for human resource (HR) tools. *Input* is the key word in the last sentence. A competency model in and of itself is not useful – it is just a bunch of words. Only when it is incorporated into HR practices does the model become useful, and a consequence of being used is that it becomes part of an employment decision. If that HR practice is later questioned, then the underlying competency model that serves as a foundation is open to detailed scrutiny.

Competency models, while a somewhat ambiguous concept, tend to be viewed as a collection of knowledge, skills, abilities and other characteristics (KSA&Os) that are required for effective job performance (Campion, Fink, Ruggeberg, Carr, Phillips, & Odman, 2011). It is important to note, however, that competency models are not just a list of KSA&Os. As described by Champion et al. (2011), they are also likely to possess 10 beneficial characteristics that are shown in Table 1. Of course, competency models are quite flexible and likely to vary widely. It is currently unknown how well these 10

characteristics actually describe models in practice, and these characteristics may be more of an idealized view of what they should be rather than what they are in practice.

Table 1. 10 Characteristics of Competency Models (Campion et al., 2011)

1.	They are likely to generate executive interest and acceptance.
2.	They normally distinguish top performers from average performers.
3.	They commonly change or are adjusted based on employee level.
4.	They are usually linked to business objectives.
5.	They are often developed top down.
6.	They may consider future job requirements.
7.	Their presentation normally facilitates ease of use.
8.	They typically identify a limited number of competencies that can span several jobs.
9.	They are often used to align an HR system into a single approach so organizations make decisions using a consistent set of attributes.
10.	They are regularly incorporated into broad organizational development and change efforts.

We examined the table of contents and indices of several popular competency modeling books and found little mention of documentation. In addition, Schippmann et al. (2000) in their comparison of competency modeling and job analysis found that lack of documentation is a key difference between the two approaches contributing to a perceived lack of rigor for competency modeling. The more traditional job analytic method of studying work is greatly concerned about documentation. In fact, many well-accepted definitions of job analysis explicitly include documentation. For example, job analysis has been defined as “a wide variety of systematic procedures for examining, documenting, and drawing inferences about work activities, worker

attributes, and work context” (Sackett & Laczko, 2003, p. 21) and job analysis “must be reduced to written form, such as a job description, and the job analyst must be able to describe the procedure” (Thompson & Thompson, 1982, p. 872). Because of this definitional inclusion of documentation, there is information available about documenting a job analysis. Unfortunately, most of it is written specifically for job analyses that lead directly to the development of an employee selection procedure. Consequently, there is little advice on how to document the development of a general competency model.¹ *This white paper looks to fill this gap and offers practical documentation guidelines.*

We first offer two perspectives on why documentation should be viewed as a critical part of any competency modeling effort – a legal perspective and an organizational perspective. Next, based on professional standards, regulatory guidelines and professional experience, we offer recommendations for what should be included in a competency modeling report.

Legal Reasons for Competency Modeling Documentation

One of the most important documents related to employment decisions, the *Uniform Guidelines on Employee Selection Procedures* (UGESP, 1978), states that documentation is a critical element of job analysis. Many readers may be surprised by the mention of the UGESP in a white paper about competency modeling. After all, the

¹ Schippmann (1999) in his book *Strategic Job Modeling* does, however, briefly provides some modeling documentation suggestions on the last two pages of the book, and the interested reader is referred there for additional information. The recommendations presented here are consistent with and expand this previous work.

guidelines apply to selection tests – correct? Yes, they do apply to selection tests, but they take a very broad view of a test. The UGESP states:

"These guidelines apply to tests and other selection procedures which are used as a basis for any employment decision. Employment decisions include but are not limited to hiring, promotion, demotion, membership (for example, in a labor organization), referral, retention, and licensing and certification, to the extent that licensing and certification may be covered by Federal equal employment opportunity law. Other selection decisions, such as selection for training or transfer, may also be considered employment decisions if they lead to any of the decisions listed above."

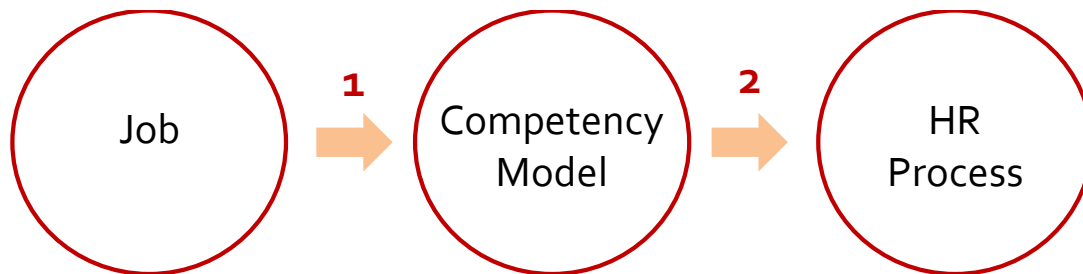
Just about any personnel decision made could be thought of as an employment decision. Subsequently, once a decision has been made, the underlying model will be open to examination using the standards found in the UGESP. Furthermore, the UGESP explicitly states that a professionally developed job analysis and documentation of that analysis is required. While the UGESP is not law, it is given "great deference" by the courts (Gutman & Dunleavy, 2013).

Consider that the UGESP uses the phrase "job analysis" 28 times, the word "document" 21 times and the word "evidence" 107 times. UGESP also states that any validation approach should be consistent with "professional standards." One of the most important standards is the *Principles for the Validation and Use of Personnel Selection Procedures* developed by the Society for Industrial and Organizational

Psychology (SIOP, 2003). The Principles use the word “document” 59 times and “evidence” 204 times. Thus, collecting and documenting evidence are important concepts to validation.

The most common and likely approach to validate a competency model is through content validation. This method ensures that HR tools are based on a “representative sample of the content of the job” (UGESP, 1978). Although current technical thinking and scholarly writing on validation differs from the UGESP’s approach (McDaniel, Kepes, & Banks, 2011), it is still an extremely important document.² Rather than further dwelling on the UGESP or esoteric validation topics, we offer a simple pragmatic definition of validation. *Validation is the systematic process of collecting and documenting evidence to support your assertions.*

Figure 1. Inferences required for a content validation approach



Two assertions must be made in a content validation approach. First, it must be shown that the competency model is representative of the job and job requirements. In other words, the components of the model are actually job-related and required for

² For a thorough discussion McDaniel et al. (2011) summarizes how the guidelines are inconsistent with current knowledge and practices. The article is followed by several further enlightening commentaries on the issue.

successful job performance. This assertion is shown in Figure 1 by the arrow (1) on the left. Second, it must be shown that the HR process is job-related, as shown by the arrow (2) on the right. These assertions are difficult because both are influenced by technical considerations. Furthermore, there is no single preferred method of competency modeling. Instead, the chosen approach should be guided by project goals (Gael, 1988; SIOP, 2003).

In traditional job analysis, the documentation relating to arrow 1 and arrow 2 will normally be combined into a single meaningful report. Our experience with competency modeling, however, is that it is often unclear all of the ways that the model will be used. As a result, only the first assertion can be documented. Thus, a technical report for a competency model is *necessary but insufficient* to validate an HR tool. This paper is only concerned with documenting the assertion associated with arrow 1. It is only half of a content validation approach, but it is the foundation and, therefore, cannot be overlooked.

Strictly speaking, formal documentation is not required for a successful legal defense to an unfair personnel practice claim. Although the UGESP (1978) states that documentation is a required component of validation, court cases demonstrate a slightly different interpretation. An interesting series of court decisions involving a required teaching licensing examination illustrates this point. The original court decision found that the examination could not have been properly validated because there was a “pervasive lack of documentation,” but it did find that the examination was “manifestly related to legitimate employment goals” and therefore job-related (as cited

in *Gulino v. Board of Education New York City*, 2012). The decision, however, was appealed, and the second judge disagreed with the job relatedness finding. He cited a well-known case (*Albemarle Paper Co. v. Moody*, 1975), which states that “job relatedness cannot be proved through vague and unsubstantiated hearsay,” but also stated that even though the UGESP views documentation as a necessity the courts are “not bound to follow the rigid strictures of the EEOC Guidelines ‘to the letter’” (*Gulino v. Board of Education New York City*, 2006). The judge concluded that while lack of documentation does not necessarily doom a claim of job relatedness, the defendant bears a “heavy burden” trying to establish validity without it. The appeal judge passed the case back to the lower court, where that judge noted that a lack of documentary evidence made it impossible to determine the job relatedness of the examination (*Gulino v. Board of Education New York City*, 2012). The judge also wrote that representatives and experts could not recall sufficient details of the development process. He noted omissions in documentation such as no notes or summaries of information gathered, no documents showing how advice was incorporated, no details on materials or interviews, and a lack of names and experiences of experts consulted and records of their contribution.

At least two other court cases are worth mentioning. First, in *Thomas v. City of Evanston* (1985), the judge stated that, “While the City asserts that more was done, it lacks documentation to prove so. Since the City carries the burden of showing content validity, its near-total lack of substantiation means that it has not met its burden.” In another case, *Evans v. City of Evanston* (1988), the judge noted that the job analysis was

inadequately documented and that a job analysis could, or should, have resulted in more documents than produced in court. Thus, the city relied on “oral recollections” of the process it used and as a result failed to meet the minimum standards. Ultimately, a lack of documentation results in evidentiary gaps.

Organizational Reasons for Documentation of Competency Modeling

Competency models are not set in stone – nor should they be. However, this does not mean that they should be constantly changed. Jobs do not change as quickly as most managers believe, and strategic direction, another driver of competency models, does not change quickly as well. In our experience, the ink is rarely dry before some modification to the competency model is requested. There is often a perception that changes can be made by simply opening a one-page visualization of the model and typing in new words. It is not that easy. When models are fully integrated into talent management systems, there will be many cascading effects. Also, it does not take long for small changes to add up to large-scale confusion and inconsistency. Making the development report readily available will often defuse capricious changes by showing the level of effort, degree of integration, thoughtfulness and thoroughness that are behind the model. In a sense, the one-page infographic *is* the model, but in a more accurate sense, it is just the face of the model. The technical documentation of the development is the true essence of the model. Just as a new car can have wonderful body styling and look great on the outside, there are a lot of other things that are important, such as what is under the hood. If you pop the hood and there is no engine,

you have a problem. If you pop the hood of a competency model and find nothing, that is a problem too.

Competency models are normally developed by a small team composed of internal personnel, external consultants or a combination of both. Personnel come and go, and memories fade. Notes get lost. It does not take long for historical knowledge concerning the development of a model to completely disappear. This is a problem because reviewing relevant documents should always be the first step of a competency modeling project. The technical documentation will give future project teams a head start and prevent them from needlessly redoing work or repeating past mistakes. It will allow them to improve upon the processes and decisions made from previous efforts. It can show how an organization has evolved and changed overtime. This ultimately saves time and money.

Recommended Documentation

Communicability is one of the strong points of competency modeling (Campion et al., 2011). Because of this, we recommend two types of documentation. The first is for public consumption, such as communication with employees and management. It should be written in nontechnical language with the main purpose being ease of understanding. Detailed development information is not needed. Include just the basic processes and outcomes. Be careful when using graphics because competency models have been shown to use less than optimal graphic design principles (Stetz, 2011). Above all, ensure the graphics avoid “chart junk,” which is information and visual elements

that do not contribute understanding, and seek to maximize “content to ink” ratio (Tufte, 1983). Information is priority, not colors, shapes, etc. It may well be worth the time and cost to have a professional graphic designer develop the final competency model graphic. Once this document is completed, it should be made available and effectively communicated to employees *and* management.

The second type of documentation is highly detailed and technical. Not too many people will ever read it. That is acceptable because it does have real legal and organizational outcomes associated with it. It is for risk mitigation and future organizational effectiveness.

An advantage of competency models is flexibility in the development process, which allows models to take on many different forms, and subsequently they can serve many different, and sometimes unanticipated, purposes. This can pose a challenge because the application of a job analysis guides the approach and documentation (Gael, 1988; SIOP, 2003). A job analysis undertaken to develop a career ladder will be very different from one intended to develop a multiple-choice job knowledge test, and these differences will be clearly reflected in the documentation. Thus, the approach and documentation are guided by many factors, and a steadfast structure for all competency modeling projects is unrealistic. Instead, we offer a general structure that can be modified, allowing projects to be adequately and appropriately described while ensuring that key pieces of validity evidence are preserved.

We take the view that validation and documentation are a great deal about risk mitigation. Not every project requires the highest level of validation and

documentation, which can cost a lot of time and money. HR practitioners should discuss with work analysis experts and management the potential risks, rewards and costs associated with various approaches, allowing them to make an informed decision. This is easier said than done. A manager's job is characterized by fragmentation, decision-making with incomplete information and a lack of technical knowledge (Mintzberg, 2013). In our experience, managers regularly have little concern about having a technical report. With constant time pressures, documentation is often the first thing to go. New projects and other interests come along, so it is easy to drop the documentation at the end of the project. We recommend that **every** competency modeling project plan have technical documentation listed as a specific standalone item with a deliverable.

Essential Elements of Competency Model Technical Documentation

Below is an outline of what we believe are the essential elements of a technical report for any competency model. The recommendations are based on the UGESP, SIOP principles, as well as our personal experiences.

Title page

It seems quite obvious the report should have a title page, but what should be included on it is less obvious. First, it should have a clear descriptive title that explains the project. Titles are an often overlooked element of a report, and it is surprising how long it can take to create a title. Every word counts, and every word that does not contribute to the reader's understanding should be removed. If you lose the reader at

the title or if you are inaccurate, it can taint the rest of the report. The second element of the title page is who conducted the study and/or who sponsored the study. Their contact information should be included. Finally, a publication date should be included as it is easy to get confused with later model revisions.

1. Executive Summary

Given that managers and executives are extremely busy and are not competency experts, a short written summary in nontechnical language is an important element to include. This section communicates to managers and executives the major aspects of the project and outcomes. We suggest that, at a minimum, the following information be included in an executive summary:

- Overview and setting.
- Nontechnical description of study approach.
- Results and outcomes.
- Implications or next steps.

2. Project Overview and Scope

A competency model should not be undertaken simply for its own sake. Instead, there should be some reason for expending organizational resources on the project. All of the applications or uses of the model may not be known at the outset, but there is certainly some organizational driver behind the undertaking. This section should clearly explain the reasons, influences and the organizational setting that provided the overarching structure and guidance for the project. Sample subsections and topics may include the following:

- Background.
- Organizational support and guidance.
- Project goals.

3. Methodology

The role of this section is to *fully* describe the steps taken in the project and the rationale for using them. It describes how the steps contribute to accomplishing the goals and how they lend credence to your assertions. As a result, there is often a great deal of information that could be contained in this section. However, it is common to keep this section to a simple written narrative and then place the more technical, detailed and/or complex information within an appendix. This makes the report easier to read while still maintaining important details. In fact, it has been noted that the typical job analysis report consists of a few pages of written text followed by hundreds of pages of appendices and tables (Stetz, Button, & Porr, 2009).

This section is the one that will most likely receive the most scrutiny should anyone ever question the model. Consequently, it should be written with extreme care, accuracy and attention to detail. Because competency modeling goals and approaches are so varied, it would be impossible to list every possible subsection to include. Listed below are the most common and most important elements to include in a well-written method section.

1. Rationale and description of the overall approach.
2. Consideration of alternative methodologies.
3. Data sources.

- a. Meetings/interviews.
 - i. Purpose.
 - ii. Description of the process.
 - iii. Dates.
 - iv. Location.
 - v. Participants.
 - 1. Name.
 - 2. Title.
 - 3. Years of experience.
- b. Survey.
 - i. Construction process.
 - ii. Sample selection.
 - iii. Administrative procedures.
 - iv. Data analysis procedures.
- c. Other sources of data and information.
 - i. Comparison to external resources/models.
 - ii. Previous work analysis and competency modeling projects.
 - iii. Relevant instructions, policies, legislation, etc.
 - iv. Leadership directives.
 - v. Organizational strategic intent.

4. Results/Outcomes/Implications

It can be quite challenging to clearly and concisely describe conclusions from the complex information that emerges from a competency modeling project. Sometimes it is best captured by a lot of numbers and tables found in an appendix. Other times it is best described in narrative form. Most often, both are done. The written narrative should be concise and easy to understand. You want to do your best to support the model you made and rule out other possible conclusions. Any analysis of work is somewhat subjective in nature (Guion, 1998), therefore it is highly unlikely that others would have developed the exact same model. Different project staff would have used slightly different words, for example. If your decisions are explained effectively, then exposing possible divergent decisions can actually result in better acceptance. A good technical report showing the care, resources, time and thoughtfulness that has gone into the project will often make complaints go away.

Included in this section are limitations and practical constraints. At first glance it would seem odd to include this in a report that could be used in legal proceedings giving the opposition fuel for criticisms. However, shortcomings and limitations are obvious to experienced individuals. Addressing them and explaining them in an upfront manner can lessen the impact and depower the opposing party. Also, as competency modeling is rarely a one-time event, including limitations in the report can help future projects.

5. References

Information within the report should be appropriately cited and referenced using a single known citation and reference style, such as APA, MLA or Chicago. For example, for many competency modeling projects, the organization's strategic intent is a key driver. If this is the case, then information about where it can be found should be included. Remember that strategic intents change and what is true today may not be the same when this document gets reviewed a year or two down the road. Therefore, you need to make sure that the original document is easy to locate. Some other sources that commonly require citations include the UGESP, professional standards and other competency models.

6. Appendices

This section should contain highly detailed information that, if included in the main body of the document, would make the report difficult to read. It is common for job analysis and competency model reports to be mostly appendices. Some types of information to include here are as follows:

- Detailed meeting information and notes.
- Sample surveys.
- Interview scripts.
- Observation forms.
- Detailed data analysis information and statistics.
- Project plan.
- Project staff and qualifications.

Key Documentation Points

Table 2 lists what we believe to be the most important points regarding the documentation of a competency model. There is no black and white correct answer when it comes to competency modeling. Others will always be able to question processes and decisions. Not having a report will not necessarily mean dire organizational outcomes will occur, but having complete documentation will go a long way to reducing problems. A poorly conceived model will always be a poorly conceived model with or without documentation, but more often than not documentation will help more than hinder. By having complete documentation, organizational exposure to risk is reduced and efficiency increased.

Table 2. Key Points Concerning Competency Modeling Documentation

Legal Requirements	Once a competency model is used, it is open to detailed scrutiny. While documentation is not an absolute requirement for showing job relatedness, defendants bear a heavy burden without it.
Organizational Efficiency	Quality documentation can increase organizational effectiveness and efficiency by establishing the purpose of the model and aid future competency modeling efforts.
What Is Validation?	Validation is the systematic process of collecting and documenting evidence to support your assertions.
Project Planning	All competency modeling project plans should have at least one documentation deliverable.
Types of Reports	There can be multiple reports for the same model. At a minimum, there should be a technical report that demonstrates the validity of the model. A nontechnical report is very useful as well for internal communications.
Level of Rigor	Not every competency model needs to be a high-powered luxury car. Sometimes an economy model will do just fine. The model development process and documentation should be dependent upon how it will be used, but accuracy should always be a key driver in your approach.

Subjectivity	Competency modeling has an element of subjectivity. Because of this, it is important to remember that others most likely would have made different decisions and come up with a different model.
Project Limitations	Acknowledging and explaining limitations, key decision points and possible divergent interpretations can often go a long way to supporting your competency model.
Essential Elements of a Technical Report	A technical report should at a minimum have the following sections: title page, executive summary, project scope and overview, methodology, results/outcomes/ implications, references, and appendices.

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