What is (or should be) the difference between competency modeling and traditional job analysis?

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ARTICLE INFO

ABSTRACT

We argue that Competency Modeling (CM) has the potential to fill an important void in Traditional Job Analysis (TJA), specifically the infusion of strategic concerns in day-to-day employee behavior. Moreover TJA and CM pursue fundamentally different goals, which those who argue for and against either of these human resource methods at times may overlook. To buttress this point we compare TJA and CM along six dimensions: purpose (describe *versus* influence behavior), view of the job (an object to be described *versus* a role to be enacted), focus (job *versus* organization), time orientation (past *versus* future), performance level (typical *versus* maximum), and measurement approach (latent trait *versus* clinical judgment). We conclude with a series of recommendations regarding ways in which TJA can be joined with CM so that an organization may achieve, among other outcomes, the critical purpose of directing employee behavior toward the accomplishment of its strategic objectives.

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In many organizations, Competency Modeling (CM) has replaced Traditional Job Analysis (TJA) for a host of human resource applications. However, there seems to be no professional consensus regarding the difference between TJA and CM, and some have even argued that any Competency Modeling (CM) project is at its foundation also a job analysis process (Ruggeberg, 2007). A group of experts surveyed regarding differences between TJA and CM noted that the latter's emphasis on "linking results to business goals" is largely absent in TJA, but also that TJA is methodologically more rigorous than CM in regards to data collection, level of detail, assessment of reliability of results, and documentation of the research process (Schippmann et al., 2000). Still others have opined that at least some CM applications are merely watered-down, less-than-rigorous job analysis (Barrett & Callahan, 1997; Pearlman, 1997), or that CM does not accomplish anything that new forms of strategic-oriented job analysis cannot accomplish (Barney, 2000; Sackett & Laczo, 2003).

A straightforward answer to the question of how CM differs from TJA has been elusive because, even though CM is widely practiced and covered in texts (Lucia & Lepsinger, 1999; Schippmann, 1999), there is no agreement regarding either the definition of "competency" or the methodology involved in developing a competency model (Pearlman & Barney, 2000). Instead of prolonging the "either/or" approach to the debate between CM and TJA, we propose framing this dilemma differently. Specifically, we maintain that CM and TJA supplement rather than displace one another and, therefore, that they ought to co-exist in the human resource toolbox of any organization.

At the outset, we would be naïve if we did not acknowledge that the distinction we propose between TJA and CM rarely exists in practice, and that the goals of TJA and CM are often confounded in field applications. And yet it is this confusion that provided the impetus for our primary objectives: to clarify differences between TJA and CM, to highlight the different purposes they may serve, and to develop the case for their capacity to supplement each other.

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Table 1
A comparison of traditional job analysis and competency modeling

Dimension	Traditional job analysis	Competency modeling
Purpose	Describe behavior	Influence behavior
View of the job	An external object to be described	A role to be enacted
Focus	Job	Organization
Time orientation	Past	Future
Performance level	Typical	Maximum
Measurement approach	Latent trait	Clinical judgment

Let us provide a brief roadmap of the manner in which our arguments proceed. First, we compare TJA and CM along six dimensions; specifically, purpose (describe *versus* influence behavior), view of the job (an object to be described *versus* a role to be enacted), focus (job *versus* organization), time orientation (past *versus* future), performance level (typical *versus* maximal), and measurement approach (latent trait *versus* clinical judgment). We believe that this six-dimensional comparison (see a summary in Table 1) serves to clarify that TJA and CM are (or ideally should be) two fundamentally different HRM tools, even though the line that separates them has been blurred in many of their field applications to date. Then, we outline how the practice of CM can be fruitfully supplemented using not only TJA but also new forms of work analysis (Sanchez, 1994; Sanchez & Levine, 1999). In doing so, we hope to demonstrate how CM can be implemented in a manner that adds not only to its strategic purpose thereby overcoming the limitations of TJA denounced elsewhere (Bridges, 1994; Olian & Rynes, 1991; Snow & Snell, 1992), but also the rigor that has been missing in CM (Schippmann et al., 2000). We conclude with a brief glimpse at future research that may strengthen the case for the union of these methods, and the value that it may add to organizational effectiveness and human resource management.

1. Comparing and contrasting TJA and CM

1.1. Purpose: Describe versus influence behavior

Our premise is that whereas the purpose of job analysis is to better understand and measure work assignments, the purpose of CM is to influence how such assignments are performed in a manner aligned with the organization's strategy. A parallel can be drawn with the notions of "trait relevance" and "situation strength," which correspond to the concepts of "channel" and "volume" in signal detection theory (Tett & Burnett, 2003). That is, whereas TJA is concerned primarily with determining "trait relevance" or the appropriate "channels" (e.g., worker attributes) that are called for by the nature of the work assignment, CM focuses on increasing situation strength—i.e., raising the volume of specific channels that signal the importance of certain loosely coupled patterns of behavior (hereafter referred to as behavioral themes) that are considered to be critical success factors (Schneier, Shaw, & Beatty, 1991) or strategic performance drivers (Becker, Huselid, & Ulrich, 2001). Organizations hope that, as a result of these "loud" signals, they will create a strong organizational climate in which employees share a clear understanding of the behavioral themes that are expected and rewarded (Bowen & Ostroff, 2004; Werbel & DeMarie, 2005).

In this respect, TJA and CM belong in different domains: TJA is best positioned in the domain of applied measurement and serves to inform HR functions such as staffing, training, and compensation, whereas CM is best conceived of as a strategy execution tool whose closest referents can probably be found in Organizational Culture and Social Control theories (Bowen & Ostroff, 2004; Chatman & Cha, 2003; O'Reily & Chatman, 1996; Trice & Beyer, 1992; Werbel & DeMarie, 2005). These theories suggest that a critical determinant of strategic leadership is not how brilliant the strategy is, but how much employees understand and share organizational norms concerning strategically-aligned behavior. CM ideally attempts to open up a conduit for strategy execution, so that the employee learns how to incorporate strategic concerns into day-to-day behavior.

Contrary to the claim that CM does not achieve anything that TJA cannot accomplish, we believe that CM is much better suited to the task of influencing employee behavior along strategic lines than TJA is. That is, key to CM's capacity to provide a path between day-to-day employee behavior and the broader goals of the organization. (Schippmann et al., 2000), is relying on a small number of core competencies that are unambiguously worded to embody the organization's competitive advantage across jobs, ranks, and locations (Chatman & Cha, 2003; Prahalad & Hamel, 1990; Werbel & DeMarie, 2005). Thus, competency models should be easy to understand and communicate to anyone in the organization, regardless of job title. In contrast, TJA is usually burdened with long lists of tasks and psychologically-worded Knowledge, Skills, Abilities, and Other Characteristics (KSAOs) that undoubtedly provide a deep understanding of the nature of each job and its requirements, but which, together, form a complex description that is difficult to communicate to those who are not closely familiar with the job or with job-analytic terminology.

To clarify how CM provides employees with a path between their behaviors and the organization's strategy, let us focus on the deliverables of a typical CM project. They include a set of competencies, which are intended to represent broadly defined behavioral themes consistent with the organization's strategic goals.

Consider the case of the US Veterans Administration (VA), which has been engaged in a process of strategic change since the mid-90s. A CM was designed with the intent to provide a path to VA employees in regards to the behavioral themes that characterized the new strategy. This strategic reinvention of the VA involved moving away from a historic, military-type organization with a formal division of labor leading to high degrees of compartmentalization, limited accountability, and limited

opportunities for development and creative initiative. The new strategy, which aimed at becoming a proactive healthcare system rather than a reactive hospital system, called for a different approach to the manner in which the VA employees enacted their jobs. For instance, the desire to abandon the "silo" mentality that was pervasive across the organization led to the inclusion of a competency named "systems thinking," which was defined as "making calculated decisions that take into account impact on other activities, units, and individuals."

A set of "behavioral indicators" (BIs) that exemplify desirable, undesirable, and "moderate" behavioral manifestations of the *systems thinking* competency were developed to give employees a clear signal of the kinds of behaviors subsumed within this broadly defined behavioral theme. However, because the behavioral manifestations of this competency might reasonably differ as a function of the occupational context in which the employee performs, multiple sets of BIs were developed to illustrate to employees how the behavioral themes signaled by this competency could be manifested in their specific job family and rank. For instance, BIs of the *systems thinking* competency took a different shape for sales managers ("evaluates the impact on others before changing work processes") than for account team leaders ("helps staff understand how their function relates to the overall organization").

It has been argued that competency labels such as "systems thinking" are problematic because they cut across domains (e.g., ability, personality) (Pearlman, 1997). However, when the purpose is guiding employee behavior, the business jargon that is typically employed to word competencies is arguably superior to the labels assigned to narrower, unitary psychological constructs such as those often included in the lists of KSAOs that characterize TJA. In support of this position we contend first that employees often have difficulties understanding psychological nomenclature and, second, that the language of psychological attributes such as abilities (e.g., flexibility of closure) and personality traits (e.g., locus of control) fails to convey an organization's strategic themes in a visionary, appealing, and straightforward manner. Thus, using a more definitionally pure set of competencies may indeed defeat CM's primary purpose of influencing behavior along strategic lines.

1.2. View of the job: An object to be described versus a role to be enacted

The notion of *the job*, which TJA usually refers to by a job title, implies a philosophical assumption that often escapes those who use the term on a daily basis; that is the existence of an external reality dubbed the job that is objectively verifiable (Cronshaw, 1998). The arrival of the conceptualization of the job as a separate entity from the person who performs a certain work activity can be traced to the onset of the industrial revolution, which created a need for division of labor. Economies of scale justified the need to view jobs as separate from individuals, because large numbers of individuals performing similar activities were required for mass production. This practice gave rise to the study of the job as a separate entity from those actually performing the activities subsumed by the job.

The job is alleged to be the object of study in TJA, because division of labor requires that jobs be seen as "constant" across different incumbents of the same job. Job analysts and Subject Matter Experts (SMEs) are then asked to describe this abstract entity. When SMEs are reminded that they are reporting about "the job" and not about "the person" holding the job (and they often are in field applications of TJA), they are asked to assume that their job exists separately from their performing the job. Therefore, one might say with tongue in cheek that asking employees to report about their job without thinking about the person who performs it is akin to a mental exercise in mind–body separation. Obviously, there is a justification for the recommendation to separate the job from the person; specifically that the job analyst is interested in a "neutral" description of the job that is not contaminated by any job holder's idiosyncratic interpretation. When conducted in this objectivist fashion (Cronshaw, 1998), TJA attempts to parallel a physical science where an external object, i.e., the job, becomes the object of study by a series of unobtrusive observers.

Because TJA has focused on capturing the essential elements of the job in the form of an across-incumbents description, it should not be surprising that this nomothetic approach has obviated the influence of the incumbent's interpretation of the job. The shared perception reflected in the job descriptions characteristic of TJA reflect the aggregate of behaviors displayed by job incumbents over time, and the aggregate is just a nomothetic compromise representing the manner in which a non-existent, "average" job incumbent performs the duties of the job (Levine & Sanchez, 2007). However, the notion of the job is a social construction that does not have tangible existence separately from those who perform it (Connell & Nord, 1996; Cronshaw, 1998; Sanchez & Levine, 2000) and, therefore, there is quite a bit of "legitimate" variability in job performance, which is partly triggered by idiosyncratic interpretations of the job. In other words, what TJA's intentionally aseptic, physical sciences-like view of the job forgets is that jobs are essentially roles (Katz & Kahn, 1978), which are both interpreted and enacted in very different ways depending on the job incumbent (Dierdorff & Morgeson, 2007; Gerstein & Reisman, 1983; Morgeson, Delaney-Klinger, and Hemingway, 2005; Sanchez & Levine, 2000).

As such, performance is the by-product of the incumbent's interpretation of the job, which introduces an idiosyncratic approach to how the job ought to be performed. Certainly, there are multiple and somewhat different interpretations of the job all leading to adequate levels of performance, just like there are multiple interpretations of the job all leading to marginal levels of job performance. For example, a group of sales representatives of a company selling temporary work services viewed the job quite differently from a second group holding the exact same job title. It turned out that each one of these different views of the job led to very different enactments of the job, which in turn led to very different levels of sales performance (Sanchez, Prager, Wilson, & Viswesvaran, 1998).

When the purpose is to influence employees to enact their role in a manner consistent with the organization's strategy, then the ideographic approach makes more sense than the nomothetic job description endorsed by TJA, because the incumbent's

interpretation of the role is certainly a precursor of performance (Katz & Kahn, 1978). Indeed, CM acknowledges the criticality of role interpretation, and it tries to influence it by loudly signaling the behavioral "themes" that are in alignment with the organization's strategy, and that the organization would like to see reflected in the incumbent's approach to the role.

In contrast to TJA's view of the job as a fixed entity that does not change from incumbent to incumbent, CM views the job as a role to be first interpreted, and then enacted by each employee. As others have suggested (e.g., Gerstein & Reisman, 1983), because the job is really a role to be shaped by the employee's interpretation, job performance can be influenced by encouraging the employee to interpret the job according to the "script" that best fits the organization's strategy. In the context of the increased widespread emphasis on organizations whose mission is service and information, rather than mass production, and even within manufacturing the move to "lean production" (Tiara, 1996), all lead to increased discretion on the part of employees. This trend underscores the criticality of the need to provide general signals on how to enact roles such that they achieve organizational objectives.

1.3. Focus: Job versus organization

As indicated by its name, TJA focuses solely on the job. In doing so, it does not acknowledge that job behavior or job requirements could be influenced by factors other than the formal responsibilities and the equipment prescribed for the job. That is, there is no formal recognition in TJA of a possible "employer brand" formed by certain behavioral themes or unique performance characteristics derived not from the job responsibilities, but directly from the organizational identity itself.

CM, in contrast to TJA, assumes that performance across all jobs in the organization should be touched by certain behavioral themes embedded in the competencies that are connected directly to the organizational strategy. The notions of "employer brand" and "employee value proposition" are actually examples of how these strategic themes are crystallized in a manner that facilitates their cascading down to day-to-day employee performance through the conduit of competencies. According to Sartain and Schumann (2006), an employer brand should support the business strategy, and employees are thus asked to deliver the products and services offered by the business in the manner articulated by the brand. This delivery requires what Sartain and Schumann call on-brand behavior, or behavior that delivers what the brand promises. Strategic competencies encourage employees to engage in such on-brand behavior, regardless of their job title.

As an example of how CM encourages on-brand behavior, consider FedEx' inclusion of "discretionary effort" among its competencies. *Discretionary effort* encourages employees to problem-solve and to create exceptional ideas for delighting the customer, all of which are consistent with their strategy of exceeding customer expectations. In other words, the competencies included in FedEx' CM articulate for the employees the types of on-brand behaviors that are expected of them, thereby instilling a sense of what it means to work for the organization, and what is unique about it. In this respect, the employer brand is an instantiation of the organization's strategy and provides a path to employees by clarifying how they can contribute to overall business goals through their day-to-day behavior.

Another point that illustrates this contrast between the foci of TJA and CM is the fact that the same set of competencies normally cuts across jobs and layers of the organization. Thus, CM becomes a common language that prescribes the most valued behavioral themes by the organization, regardless of the job. For example, consider Disney's strategic emphasis on cleanliness and attention to detail. Everyone in the organization from the groundskeepers at the parks to the animators in the movie studio is responsible for incorporating this value into his/her individual role (Capodagli & Jackson, 1999, p. 182).

By contrast, because many of the descriptors employed in TJA such as job tasks and KSAOs are created ad-hoc for the job under investigation, such descriptors are unique to each job and hardly allow for between-job comparisons. TJA has long struggled with the idea of creating a common occupational language that would allow cross-job comparisons. O*NET has emerged as an approach to develop a universal occupational language that can be used to describe all jobs. However, O*NET includes descriptors such as abilities, skills, and work context elements, which are typically phrased according to psychological jargon using labels such as "deductive reasoning" and "speed of closure." This type of psychological nomenclature makes some O*NET descriptors difficult to understand by and communicate to end-users. In contrast, CM employs everyday or business terms that are more readily understood by end-users. Consider for example the endorsement of the term "freedom" in Southwest Airlines' employee value proposition as described by Sartain and Schumann (2006, p.51). Their definition includes the freedom to "learn and grow, make a positive difference, travel, work hard and have fun, work and innovate, and stay connected," all of which touch on critical values and behaviors that define the airline's brand.

Still another strength of a list of competencies that cuts across all jobs in the organization is its ability to simplify succession planning and career development systems. That is, competencies represent universal behavioral themes that the organization would like to see displayed across all jobs and, therefore, those who wish to be promoted know exactly what these behavioral themes are that should lead them to better paid jobs. In contrast, TJA descriptors such as abilities and skills are often job-specific, and therefore fail to convey what are the key factors that the employee should work on if s/he wishes to advance to higher jobs in the organization. Microsoft, for example, cleverly called competencies "Microsoft success factors," thus underscoring their critical role in career advancement (Fink, 2007).

Consider also the case of General Electric, whose performance management system includes the competency of "inclusiveness," which managers at all levels of the organization are expected to display. Therefore, when employee surveys pointed out that field engineers from a given unit complained about management ignoring them in the decision-making process, management did not need specialized psychological training to understand that such complaints were a negative indicator of inclusiveness. Those managers promptly acted on such complaints by opening up new communication channels with field engineers, because

inclusiveness is one of those competencies that cuts across management jobs at GE, and one without which their chances of future promotions will be seriously curtailed. In short, simplicity in terms of a small number of competencies that cuts across jobs makes CM more likely to become "the language of choice" when organizational members discuss the drivers of their potential career progression.

1.4. Time orientation: Past versus future

As can be concluded from the above, whereas TJA is essentially descriptive, CM is primarily prescriptive (Sackett & Laczo, 2003). That is, TJA attempts to provide an "objective" account of the "average" work activities and their associated worker requirements. In contrast, CM intends to prescribe the manner in which work activities should be carried out in alignment with the organization's strategy.

Because of its descriptive nature, TJA is also rooted in the past, and it portrays the job as it has been done to date. CM, on the other hand, is focused on the future, and it signals the manner in which the job should be interpreted and performed from now on, regardless of whether or not employees have adopted such an approach in the past. Due to its past orientation, TJA relies primarily in those who have performed the job to date as a primary source of information (typically job incumbents). The primary purpose of CM is to serve as a conduit of the organization's strategy into the day-to-day employee behavior. This strategic influence paves the way to a new interpretation of the job that may differ from that adopted by those charged with performing the job to date. In this respect, it seems fair to maintain that the primary source of information in TJA is the job incumbent, whereas the primary source of information in CM is those responsible for strategic planning and strategy deployment.

As a result of the emphasis on the job as it has been performed to date, the dominant flow of information in TJA proceeds in a bottom-up direction, with those who have experience performing the job "revealing" their approach to management. The flow of information in CM is essentially top-down, with those in charge of strategic planning trying to send a strong signal to those below them regarding the behavioral themes that they should observe in their role interpretation, whatever the specific work activities that they have been charged with might be. Additionally, the generic nature of competencies does allow for employee collaboration in shaping the meaning of the competency in the context of an employee's particular circumstances, and how it can be enacted to achieve future objectives.

Still another way to illustrate this difference in time orientation is to frame it in the context of the type of organizational capabilities that the organization wishes to ensure. TJA is concerned with uncovering day-to-day operational capabilities that have facilitated the continuation and survival of the organization to date. Most KSAOs are indeed examples of worker attributes needed to ensure that the job, as it is currently understood, continues to be performed satisfactorily. In contrast, CM is concerned with evolutionary and dynamic capabilities that facilitate growth and change. For example, the VA's competency of *Personal Mastery* involves taking responsibility for one's career inside the organization, thereby ensuring that one remains employable in spite of technological innovation and other trends impacting healthcare. Similarly, the VA's *Creative Thinking* is also a change-oriented competency that encourages employees to deviate from "the way we have always done it" and to take calculated risks (Eisenhardt & Martin, 2000).

1.5. Performance level: Typical versus maximal

Still another difference lies in the distinct performance level addressed by TJA and CM. Whereas TJA can be said to focus on describing "typical" performance as represented in the description of the job as performed by an "average" job incumbent, CM aims at inducing "maximal" performance as reflected in a strategic interpretation of the job that results in a series of behaviors that fit certain strategic themes (Sackett, Zedeck, & Fogli, 1988).

This difference in performance level foci can also be framed in the context of the psychological contract between the employee and the organization (Rousseau, 1995). Due to its emphasis on describing the formal work assignment, TJA can be said to capture the transactional contract between the organization and the employee. That is, the work activities described in the job description constitute the minimum that the job holder commits to perform in exchange for the "base" salary associated with the job. CM on the contrary seems closest to describing a relational contract that regulates an implicit understanding between the employee and the organization. This understanding establishes a commitment to interpret not only the current role, but also future roles along the lines of certain behavioral themes representing maximal performance in line with the organization's strategy.

As mentioned, TJA is concerned with describing the requirements needed to perform the work activities and associated worker requirements that characterize the representative or prototypical job incumbent. In this respect, TJA is well suited to applications where the goal is in part to determine basic worker requirements or minimal qualifications needed for job entry. Even for attributes delineated by TJA that are assumed to set the superior worker apart there is little guidance toward characterizing superior performance beyond the simple notion that more is better. In contrast, CM encourages a series of loosely coupled behaviors or behavioral themes that go beyond mastery of the basic aspects of their job, and instead concretize performance excellence as envisioned in the organization's strategy. CM is therefore more likely to offer guidance to those employees who have already met the basic requirements of their job in terms of KSAOs, but who wish to move on to the next level of performance, which is characterized by not only the satisfactory fulfillment of their formal job responsibilities, but also the incorporation of a series of behavioral themes that define on-brand performance.

It is now well accepted that performance of one's role in the organization encompasses task performance prescribed for the role and another set of more discretionary behaviors that are aimed at maintaining or enhancing the system of which the role is a part

(e.g., Spector, 2008). Borrowing the terminology employed by Borman and Motowidlo (1992), one may argue that TJA is best suited to defining the requirements of task performance, which involves discharging the technical, and formally prescribed aspects of the job included in the job description. On the contrary, CM appears better qualified to encourage contextual and prosocial performance, which are not so clearly related to the formal job description but, instead, are part of an interpretation of one's role. Indeed, many of the behavioral themes normally alluded to in competency definitions bear on the interpersonal aspects of the manner in which the job ought to be performed. For instance, the VA defined "Organizational Stewardship" as a competency involving the demonstration of "commitment to the organization, its members and customers" and also of "empowering, trusting, and servicing others."

Other competencies emphasize the importance of attending to the context in which the job is performed. For example, the VA defined *Flexibility/Adaptability* as "becoming comfortable with unpredictability," and *Creative Thinking* as "taking risks" and "reaching outside the box." All of these competencies imply an employee who assesses the context (i.e., risks, unpredictability) which s/he faces, and then adapts his/her performance accordingly.

1.6. Measurement approach: Latent trait versus clinical judgment

In our view, the TJA *versus* CM debate has its origins partly in a misunderstanding of the primary goal of CM to which, to some extent, proponents of CM themselves might have contributed. Here we refer to implicit but unsubstantiated claims that competencies capture sound, unitary constructs or latent traits. Indeed, staffing experts, who themselves often have strong backgrounds in applied measurement, have been quick to adopt a potentially misguided "latent trait reading" of the notion of competencies that, as a result, has led them to deem them overly vague and complex constructs of dubious construct validity.

Critics of CM have argued that competencies do not meet the rigorous criteria needed to establish valid constructs. For instance, according to Pearlman (1997), Spencer, McLelland, and Spencer's (1994, p.4) definition of competency (i.e., "Competencies can be motives, traits, self-concepts, attitudes or values, content knowledge, or cognitive or behavioural skills—any individual characteristic that can be measured or counted reliably and that can be shown to differentiate significantly between superior and average performers") suggests a concoction that cuts across different domains and levels of analysis. Under the psychometric microscope, competencies appear to be troubling concepts, because their multi-faceted nature makes them unlikely to meet well-accepted criteria for construct validity such as forming a sound nomological network where acceptable levels of convergent and discriminant validities among similar and dissimilar latent traits are observed.

We understand that the notion of construct validity is essential to psychological measurement, because fuzzy constructs detract from our ability to develop error-free measures of the latent traits needed to develop parsimonious theories of organizational behavior. However, our view is that a latent trait reading of CM misses the point that the primary aim of CM is hardly to yield construct-valid measures of latent traits, but to promote employee behavior towards strategic-oriented "themes," which do not have to represent the type of construct that meets the psychometric standards to which psychological measures are usually held.

We argue that concerns about competency measures not meeting the standards of construct validity are misguided, because the loosely coupled types of behaviors grouped under the umbrella of a competency are better termed fuzzy rather than single latent traits. Therefore, competency measures are better thought of as global judgments, similar to clinical judgments that combine a number of constructs into a single score (Ganzach, 1995; Meehl, 1959; Sawyer, 1966). These measures are perhaps higher-order factors that cut across a variety of simpler constructs and, hence, should not be expected to fulfill the construct validity requirements of pure, single-construct measures.

Due to the multiple constructs captured in a competency, they are unlikely to display a clear web of convergent and discriminant validities against measures of single constructs. First, the multi-construct nature of the competency is unlikely to result in large correlations with any measure of a presumably simpler, single-construct measure, even though it may display small to moderate correlations with virtually any measure bearing resemblance with one or more of the constructs combined in the composite. For this same reason, the competency is unlikely to be uncorrelated with any measure that overlaps with one or more of the constructs represented in it.

Lack of construct validity does not imply that competencies are useless from a measurement point of view. In fact, their purpose is simply to provide a summary score that can be used to evaluate, rank-order, or classify individuals, which can be accomplished regardless of the number of constructs or latent traits underlying them. Indeed, fuzzy constructs have a long tradition in human resource management, as illustrated by overall scores on assessment centers and structured interviews (Gaugler, Rosenthal, Thornton, & Bentson, 1987; McDaniel, Whetzel, Schmidt, & Maurer, 1994).

In regard to measures of reliability, the various facets and various levels represented in the behavioral syndromes termed competencies might not always be intercorrelated and, as a result, an acceptable level of internal consistency is unlikely to be met. For this reason, we believe that internal consistency reliability is hardly a useful way to assess reliability in CM.

Other reliability estimates like measures of interrater agreement regarding descriptors such as ratings of task and KSAO importance or difficulty of learning are common in TJA (Dierdorff & Wilson, 2003). The level of agreement is usually thought to index the extent to which the abstraction represented by the job has been adequately captured across the SMEs. However, it has been noted that much of this disagreement can be conceived as legitimate rather than error variance and, therefore, that interrater agreement is hardly an index of the extent to which a job description is accurate (Sanchez & Levine, 2000). Similarly, we argue that measures of interrater agreement have a place in CM, but not as an index of the accuracy of the competency model. As we explain in the next section, we believe that measures of interrater agreement may stimulate and guide the identification of behavioral incidents for each competency.

2. Cross fertilization of TJA and CM: Recommendations and future research

As stated above, we believe that TJA and CM supplement rather than replace each other, and that the practice of CM can be enriched through both old forms of TJA and new forms of work analysis (Sanchez, 1994; Sanchez & Levine, 1999). In this section, we outline a series of methodological recommendations that attempt to build bridges between these two techniques and, in the process of doing so, we point out future research directions that address the still many unanswered questions regarding CM.

At the outset, we begin this section by recognizing that TJA has an important shortcoming in that it ignores the value added by strategic variables, which should influence employee behavior in today's increasingly competitive workplace (Becker, Huselid, & Ulrich, 2001). Strategic job analysis, which has been defined as a comparison between present and future-oriented job-analytic ratings (Schneider & Konz, 1989), may reveal unforeseen strengths, weaknesses, advantages and threats affecting the strategic HR planning process. However, unlike CM, which focuses on strategy execution, strategic job analysis is concerned with strategy formulation. Therefore, we disagree with those who maintain that strategic job analysis can replace CM (Sackett & Laczo, 2003), because strategic job analysis does not provide a conduit between strategic business goals and day-to-day employee behavior. Next, we illustrate how TJA can supplement CM at various points of the CM process.

2.1. Derivation of strategic and functional competencies

We believe that different types of SMEs are needed throughout the CM effort. The first panel of SMEs is charged with translating the organization's strategy into a series of competencies. This panel should include top strategic decision makers, who are the architects of the organization's mission and vision. However, the panel also should include individuals familiar with all of the organization's operations and functions because the distinctive competitive advantage of the organization often lies in the operational details (Kaplan & Norton, 2004). Consider for instance Exxon-Mobil's realization of the criticality of reliable gas distribution, which led to the designation of the jobs involved in this operation as a "strategic job family."

Werbel and DeMarie (2005) provided a potentially useful list of characteristics that every competency should probably have. First, competencies should refer to durable human capital, should capture the organization's competitive advantage by creating distinctiveness, should be tacit or difficult to imitate, and should be especially valuable in a knowledge-based economy.

Schippmann (1999) introduced a taxonomy of strategic prototypes and their primary business characteristics that can be very helpful in the derivation of strategic competencies. For instance, a cost-driven organization, which vigorously pursues production/delivery efficiencies and tight cost controls, should probably include competencies embodying behavioral themes such as a results-orientation and consistency/reliability. On the other hand, a service-driven organization should likely count on competencies involving initiative and interpersonal/emotional courtesy.

With few exceptions (Levine & Baker, 1990; Stevens & Campion, 1994), TJA has relatively little to offer in terms of the competencies needed for teamwork. A recent, comprehensive treatment of team-based research by Mathieu, Maynard, Rapp and Gilson (2008) refers to team competencies as a blend of aggregated patterns of individual-level KSAOs and emergent competencies such as goal orientation or group value consensus surrounding such issues as diversity or learning. Future research is needed to formulate team-level competency models.

Schuler and Jackson (1987) noted that strategic focus (innovation, quality enhancement, cost reduction) should inform the choice of competencies. Similarly, Adobor (2004) suggested taking into account the nature and context of joint ventures in selecting management competencies.

Research on these and other suggestions regarding the process through which an organizational strategy should be translated into a set of core competencies is warranted. However, we believe that it is important to understand that strategy formulation should precede CM. The literature on strategic HRM provides a number of useful theoretical models for strategy formulation (Colbert, 2004; Delery & Doty, 1996; Lengnick-Hall & Lengnick-Hall, 1988; Lepak & Snell, 1999; Wright & McMahan, 1992). In addition, it has been suggested that the formulation of an HR strategy should account for the firm cycle (e.g., start-up, turnaround) (Gerstein & Reisman, 1983; Miles & Snow, 1986) and the number of product lines (Tichy, Fombrun, & DeVanna, 1984). CM is not concerned with making these decisions, but with how to best translate already made strategic decisions into a series of behavioral themes. Perhaps most importantly, CM should be an integral part of the HR strategy execution process, which should take a systemic approach (Chadwick, 2005) encompassing HR practices, environmental, group and contextual factors (Bowen & Ostroff, 2004; Werbel & DeMarie, 2005).

2.2. Evaluation of CM

Some may argue that CM needs to be "validated," especially when the organization plans to design a staffing system around such competencies. In our opinion, the idea of designing a staffing system *solely* around strategic competencies should be approached cautiously. First, criterion-related validation of inferences based on such systems may be challenging, because meta-analytic research suggests that measures of person-organization fit have null to small relations with both performance and turnover (Arthur, Bell, Villado, & Doverspike, 2006).

Resorting to CM content validation may not be trouble-free either. Specifically, imitating a long-standing practice in TJA, some CM applications arguably waste valuable SME time asking them to rate the extent to which strategic competencies apply to a given job or job family. Strategic competencies are dictated by the organization's strategy and, as a result, they are expected to influence performance across all jobs. The question of whether or not the competency "applies" to the job is therefore moot, because such a

decision should be already made at the organizational level, and it does not depend on the specific responsibilities or work behaviors involved in the job, albeit the manner in which the competency is demonstrated will change from job to job.

We understand that this questionable and time-consuming practice of judging the relevance of each strategic competency to each job might have been fueled by the desire to comply with the job-relatedness provisions of the *Uniform Guidelines on Employee Selection Procedures* (1978), which explicitly call for linkages between KSAOs and critical job behaviors. There is no doubt that, in their desire to please (or perhaps get rid of) the CM consultant many SMEs would not hesitate to rate the extent to which competencies "apply" to their job; however, making such inferences concerning the job-relatedness of strategic competencies on "the slippery floor of behaviorally-fuzzy competencies" (Sanchez & Levine, 2001, p. 85) is akin to performing acrobatic gymnastics on an icy floor. Not surprisingly, the results of such exercises are frequently disappointing, and suggest that ratings of broadly defined competencies often have trouble meeting the levels of interrater agreement typically found for the less fuzzy work descriptors characteristic of TJA such as job tasks and KSAOs (Lievens, Sanchez, & De Corte, 2004; Lievens & Sanchez, 2007; Morgeson, Delaney-Klinger, Mayfield, Ferrara, & Campion, 2004).

In our opinion, asking SMEs to judge the job-relatedness of strategic competencies is an example of the misguided approach through which some have tried to replace rather than supplement TJA with CM. Because strategic competencies should touch virtually every job in the organization, every employee should find ways to incorporate the type of on-brand, strategic behavior signaled by the competencies into his/her day-to-day behavior, but of course in the context of his/her job responsibilities.

Measures of interrater agreement may still provide evidence of content validity in CM, but raters should judge the extent to which competencies capture the distinctive competitive advantage of the organization, and not the relevance of each competency to their job. To comply with the job-relatedness provisions of the *Uniform Guidelines*, the organization may need to supplement CM with TJA, unless they can convincingly argue that work is not organized around fixed and stable job titles (Sanchez, 1994; Sanchez & Levine, 1999).

Is content validation the best approach to evaluate CM? We believe it is not. We have argued elsewhere for a redirection of the efforts to evaluate the quality of work-analytic data towards an evaluation of the consequences of the inferences based on such data (Sanchez & Levine, 2000). Even though we have argued above that CM is essentially an influence tool whose purpose and methodology do not have to emulate those of TJA, we maintain that CM should too be evaluated by broadly examining its consequences. Given CM's main purpose, the extent to which CM has shaped behavior along strategic lines should be its primary evaluation criterion. Controlled experiments and quasi-experiments comparing various sites at different stages of the CM implementation process may shed light on how CM is best implemented and managed to accomplish its influential goal.

Because competencies are rather fuzzy constructs, a better understanding of their scientific underpinnings would require an identification of each competency's measurement model. TJA may be helpful in this respect because it provides an array of KSAOs that may shed light on the latent traits possibly underlying the complex behavioral syndrome represented by a single competency. Ruggeberg (2007) referred to these KSAOs as "enablers" and, due to the complex nature of many competencies, listed a large number of enablers for each of them. The identification of these enablers should prove valuable in designing scientific selection processes around the appropriate psychological constructs, thereby providing the methodological safeguards that the experts surveyed by Schippmann et al. (2000) missed in CM. Hayton and Kelley (2006) provided a helpful example of how a competency model for supporting corporate entrepreneurship can be supplemented by a series of inferences regarding the underlying, measurable knowledge, skills, and abilities contributing to these competencies. However, researchers should realize that competencies are multi-dimensional behavioral syndromes whose antecedents are found amongst not only individual KSAOs, but also group variables (Werbel & DeMarie, 2005), and other contextual and systemic factors (Bowen & Ostroff, 2004). These multi-level measurement models may help researchers gain a better understanding the constructs underlying the kind of strategic performance sought by the organization.

2.3. Developing the organization's own competency language

The manner in which competencies are worded should not be taken lightly. Because CM is supposed to serve as an internal language capable of influencing day-to-day employee behaviors along strategic lines, competency definitions and, especially the behavioral anchors that demonstrate such competencies for each job or job family, should be disseminated to the appropriate stakeholders across the organization. A clear understanding of the behavioral anchors is critical to ensure that incumbents understand how competencies can be behaviorally demonstrated in their daily routine. This is not to suggest that a CM project cannot start with a pre-existing dictionary of competencies, but we strongly support the position that these must be customized to capture the shared meaning associated with the situated behavioral themes informed by the organization's strategy.

Should the list of competencies be limited strictly to strategic performance drivers or those inspired solely by the overall organizational strategy? An inspection of the CMs of several organizations suggests that, in most cases, CMs include functional competencies in generic areas such as "leadership" and "management" (Fink, 2007; Phillips & Odman, 2007; Ruggeberg, 2007). Upon further inspection, it appears that most of these competencies (e.g., performance management) owe their inclusion in the CM more to their across-the-board value as examples of best management practices than to unique strategic concerns derived from the organization's competitive advantage.

Two caveats are in order here. First, understandability is a key determinant of HRM system strength (Bowen & Ostroff, 2004), and therefore short and clearly worded lists of competencies have the best chance of becoming part of the organizational jargon thereby influencing employee behavior. Werbel and DeMarie (2005) noted that a broad array of competencies is likely to dilute the unique organizational identity captured in the CM, thus inhibiting consensus and consistency around it. Therefore, we would

recommend that organizations think twice before they increase the number of competencies in their model, especially if they reflect generic aspects of performance.

Second, because distinctiveness is also a key determinant of HRM system strength (Bowen & Ostroff, 2004), generic competencies may fail to instill a distinctive sense of what it means to work for the organization and, as a result, fail to provoke on-brand, strategic behavior. Thus, we recommend, as we did above, that organizations take the time during the CM effort to customize generic labels and behavioral indicators or, better yet, to develop their own CM language. Capaldo, Iandoli, and Zollo (2006) noted the benefits of defining competencies as situated, idiosyncratic constructs whose meaning is deeply influenced by organizational culture and by the unique way people make sense of their jobs. Clearly, research exploring the association between language characteristics of the CM and outcomes such as the extent to which stakeholders accept the CM is needed.

2.4. Derivation of behavioral incidents

A different type of SME panel should be employed at this step. It would most likely differ from job family to job family, and it should be charged with "translating" the broadly defined themes embedded in the competencies into behavioral indicators or day-to-day behaviors. In other words, these SME panels are charged with developing the behavioral indicators that illustrate or contribute to the theme represented by the competency on the focal job.

We believe that this is likely the step where cross-fertilization between TJA and CM can be most beneficial because the former can help the latter achieve its primary purpose of influencing employee behavior along strategic lines. Indeed, TJA techniques can be used to illustrate how a competency can be behaviorally demonstrated on a given job or job family. SMEs should be first trained on the meaning and definition of each competency using proven formats such as the frame-of-reference approach (Lievens & Sanchez, 2007).

Then, the critical incident technique can be employed to have SMEs use their knowledge of the job to identify instances where a competency can influence one or more employee behaviors. As explained earlier, CM is future rather than past-oriented and, thus, these instances do not need to be actual examples of past behaviors, but situations where the SMEs conceive that employee behaviors can be fruitfully informed by strategic competencies. Researchers may use the basic elements of the critical incident technique to derive behavioral incidents. That is, SMEs may be asked to identify the type of situation where the competency may influence employee behavior, the manner in which the behavior would be influenced, and the consequences of such an influence.

Whereas SME interrater agreement is typically employed in TJA to ascertain whether a given descriptor (e.g., task, KSAO) applies to the job, we believe that interrater agreement should be applied differently to behavioral indicators in CM. Given their job experience and job knowledge, job incumbents are indeed best qualified to identify behaviors that illustrate the competencies on their job. Behavioral anchors can be thought out by SMEs as examples of how a given competency would be demonstrated at the job level, and then the entire SME panel would be asked to estimate the extent to which each anchor is representative of the focal competency, and also what level of the competency is illustrated by the anchor. Disagreement among SMEs should serve to stimulate the panel's discussion of what the competency means in behavioral terms for the job in question, and it may proceed along the lines of the discussion that takes place among assessors in assessment centers (Gaugler et al., 1987). That is, those who disagree with the majority should argue their case as to why each behavior either represents or fails to the focal competency. Panelists will listen to each other's arguments and reach a consensus regarding how behavioral anchors should be best phrased to signal the manner in which the competency influences job performance. An additional benefit of this panel discussion is that it should lead to the identification of additional behavioral indicators of the competency.

Creative examples of this type of CM-TJA cross-fertilization have been employed to produce behavioral indicators at various levels of each competency (Fink, 2007; Phillips & Odman, 2007; Ruggeberg, 2007). In our opinion, the value of these behavioral indicators lies in facilitating the communication of the strategic signals embedded in the CM to the employees. That is, the specific examples of how each competency can be demonstrated on their job will arm employees with an "operational understanding" of the competencies in the context of their own job, thus making it easier for them to replicate these and other behavioral indicators in their day-to-day behavior. Of course, employees should understand that behavioral indicators are just examples, and not the only behaviors through which competencies can be incorporated to their job. In this respect, the CM's roll out process should be accompanied by carefully planned information sessions and online tools where the volume of the "signal" for each competency is duly raised, so that employees understand the type of on-brand behavior expected from them.

3. Conclusion

Overall, we expect that the discussion presented here will raise awareness about the fundamentally different purposes pursued by TJA and CM, thus ending the either-or debate between them. In essence, whereas TJA focuses on describing and measuring the requirements of work, CM creates a conduit to influence day-to-day employee performance along strategic lines. Having highlighted how we stand to gain from using them together, we hope to stimulate research on the manner in which TJA and CM may supplement each other in a host of HR applications.

Acknowledgement

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