

# Competency modeling: A theoretical and empirical examination of the strategy dissemination process

Michael C. Champion<sup>1</sup> | Donald J. Schepker<sup>2</sup> | Michael A. Champion<sup>3</sup>  | Juan I. Sanchez<sup>4</sup>

<sup>1</sup>Department of Management, University of Texas at Rio Grande Valley, Weslaco, Texas

<sup>2</sup>Department of Management, Moore School of Business, University of South Carolina, Columbia, South Carolina

<sup>3</sup>Krannert School of Business, Purdue University, West Lafayette, Indiana

<sup>4</sup>College of Business, Florida International University, Miami, Florida

## Correspondence

Michael C. Champion, Department of Management, University of Texas at Rio Grande Valley, Weslaco, TX 78596.  
Email: michael.champion@utrgv.edu

## Abstract

One of the most important functions of a competency model is to translate organizational strategy into employee behavior. Yet, virtually no theoretical attempts to elucidate this process exist, and no empirical evidence has been offered demonstrating that it occurs. Drawing on the strategic management literature, we develop a conceptual framework delineating this process. We theorize that structurally distributed knowledge, attention, and behavior results in coalitions of individuals at different hierarchical levels (top managers vs employees) developing different dominant logics. These differences across levels in habituated modes of processing information and conceptualizing roles impact the initial importance assigned to competencies that are added to the model as an organization's strategy evolves. However, over time, competency models enable top managers to drive their dominant logic downward through the organization. As the importance of certain competencies is reinforced through performance management, schemata of high-performers shift, becoming better aligned with those of top managers'. Using data from focus groups, surveys, and archives collected at two points in time (6 years apart) capturing change in the strategy of an organization of professional jobs in the U.S. government ( $n = 218$ ), results were supportive. We then use our model to generate an agenda of research questions and topics to enhance competency modeling scholarship.

## KEYWORDS

communication, control systems, core competencies, strategic human resource, strategic planning systems

## 1 | INTRODUCTION

Organizational environments are becoming progressively more dynamic and volatile in many industries. As a result, organizational survival increasingly depends on the ability to synchronize employee activities with external demands by promoting internally consistent behavior that aligns with the organization's adaptive strategy (Ancona & Chong, 1996; McCarthy, Lawrence, Wixted, & Gordon, 2010; Perez-Nordtvedt, Payne, Short, & Kedia, 2008). Core to this process is creating a direct line of sight between employee knowledge and behavior and organizational strategy. Therefore, it is not surprising that practices such as competency modeling that are purported to

promote strategically aligned behavior have become viewed as invaluable (Campion et al., 2011; Green, 1999; Lievens, Sanchez, & De Corte, 2004; Lucia & Lepsinger, 1999; Sanchez & Levine, 2009; Schippmann et al., 2000). However, little is known about the process through which competency models actually align and coordinate employee behavior with organizational strategy.

We define *competency models* as collections of behaviors that are needed for effective performance on the job (see Bartram, 2005; Lievens, Sanchez, Bartram, & Brown, 2010 for similar definitions). These individual competencies are rooted in clusters of knowledge, skills, abilities, and other characteristics (KSAOs) (Campion et al., 2011; Sliter, 2015; Spence & Spence, 1993; Tett, Guterman, Bleier, &

Murphy, 2000). The promise of competency modeling is that it can be used as a mechanism to drive an organization's strategy down to the level of employee behavior (Campion et al., 2011; de Sá Sousa, & do Prado Leite, 2017; Green, 1999; Levenson, 2018; Profiroiu & Hurdubei, 2018; Rodriguez, Patel, Bright, Gregory, & Gowing, 2002; Sanchez & Levine, 2009; Schippmann et al., 2000; Sliter, 2015; Spence & Spence, 1993). Although there has been some limited research on how different strategies may require different competencies (e.g., Diaz Fernandez, Lopez Cabrales, & Valle, 2014; Diaz Fernandez, Lopez Cabrales, & Valle Cabrera, 2013) and how competency models can be used to assess strategic thinking (Goldman & Scott, 2016) and entrepreneurship (Menke, 2018), there is an important but unaddressed need to understand how competency models help implement strategies. The reality is that psychological explanations thus far have somewhat simplistically treated the concept of strategy as a set of abstract organizational goals and objectives. As a consequence, the path competency models pave between organizational strategy and employee knowledge and behavior remains poorly understood. This lack of theoretical development inhibits our ability to identify the problems surrounding the use of competency models in practice that may in turn undermine their value to organizations. For example, these problems may come in the form of organizational and psychological factors that impede the strategy dissemination process. Moreover, by not challenging this promise of competency modeling, our ability to understand how it opens a conduit between organizational strategy and employee knowledge and behavior remains constrained.

Accordingly, the purpose of this article is to draw insight from the strategic management literature, a domain devoted to understanding the nature of organizational strategy, to extend existing psychological research on competency models and, as a consequence, clarify how competency models operate to translate organizational strategy into employee behavior. By integrating research from the strategic management and psychology domains, we attempt to illuminate the linkages between organizational strategy, competency models, and employee knowledge and behavior. Thus, this article makes two overarching contributions to the competency modeling literature.

First, we intend to advance competency modeling scholarship by drawing from strategic management theory to develop a conceptual framework delineating how competency models translate the organizational strategy into employee knowledge and behavior. In so doing, we identify individual knowledge, attention, and behavior as inseparable components supplying the principal theoretical mechanism through which this process is likely to occur (Brymer, Hitt, & Schijven, 2011; Ocasio, 1997; Orlikowski, 2002). Second, we use our framework and competency modeling data collected from a large organization at two separate points in time to develop and test predictions.

## 2 | THEORETICAL OVERVIEW

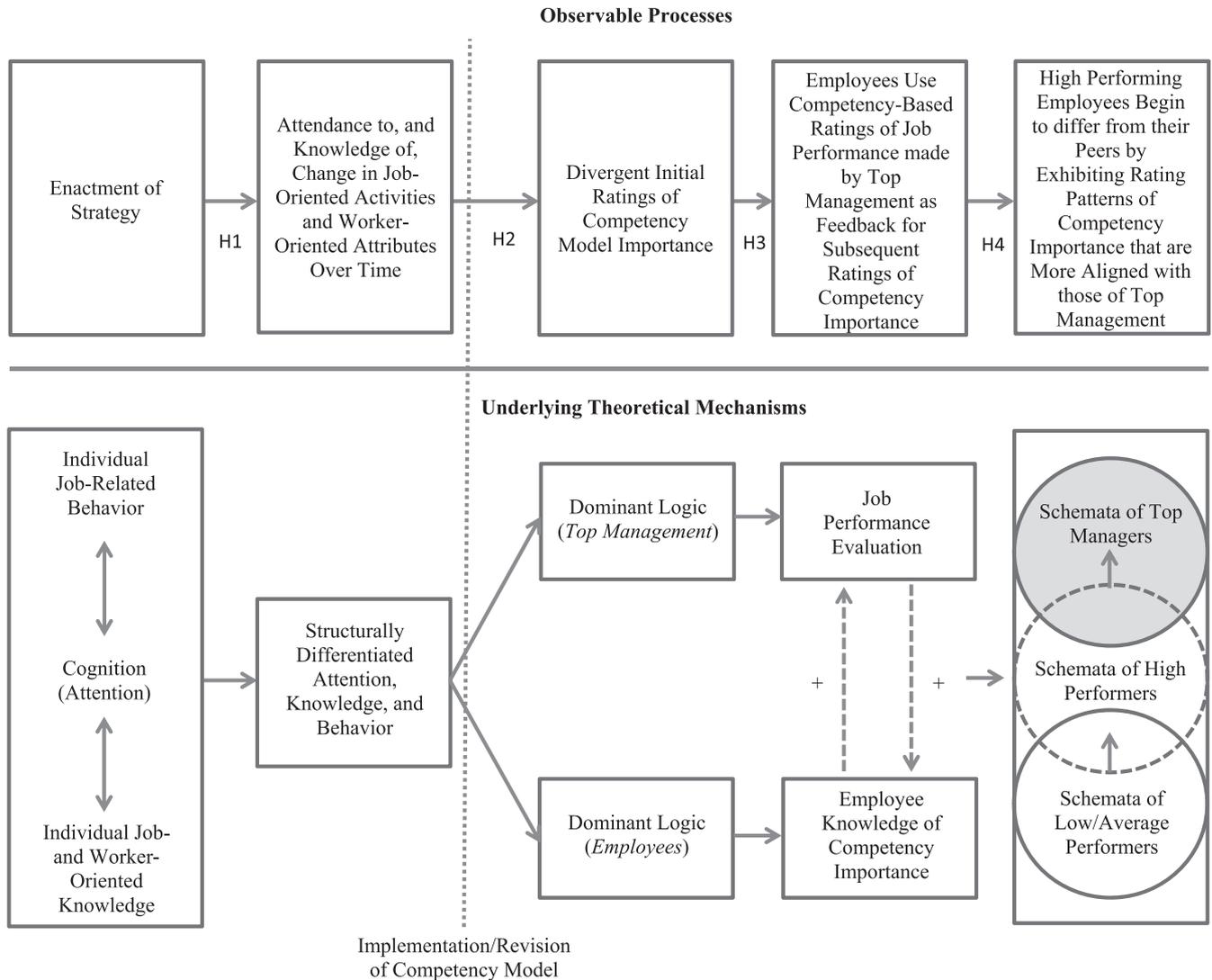
Our theoretical perspective on competency models is derived from three insights from the strategic management literature. First, an

impediment to strategy dissemination is likely to exist such that organizational members across hierarchical levels will initially, if not invariably, disagree with respect to their understanding of which competencies best capture "core," or strategically aligned behavior. This is because the types of work- and task-related factors individuals at different levels of the organization attend to differ (and often quite dramatically) (Ocasio, 1997) and, as a consequence, the nature of knowledge across hierarchical levels also differs (Ireland, Hitt, Bettis, & de Porras, 1987; Nonaka & Takeuchi, 1995; von Krogh & Roos, 1996). This has important implications for the practice of competency modeling. For example, it may inhibit an organization's ability to obtain buy-in from lower level employees. This lack of consensus, in turn, may undermine the strategic value of the competency model upon implementation, since individuals at different levels may emphasize different sets of behaviors that, in their opinion, best capture the organization's strategy.

Second, if knowledge is inextricably linked to behavior as some strategic management scholars suggest (e.g., Brymer et al., 2011; Cook & Brown, 1999; Orlikowski, 2002), a "virtuous loop" may exist in the relationship between employee knowledge of competency importance and job performance. Employees begin with an initial understanding of how important specific competencies might be to their jobs. They then test this knowledge of competency importance by examining whether enactment of these behaviors leads to positive consequences through their job performance. Following this, they use this outcome as feedback in re-evaluating their understanding of each competency within the model. Thus, changes in the importance employees assign to the competency model over time are reinforced, at least in part, by whether their enactment of competency-related behaviors results in positive outcomes and recognition.

Third, competency models are unlikely to translate the organization's *intended* strategy (see Mintzberg, 1978) into employee behavior as is often the implicit argument in competency modeling theory (e.g., Campion et al., 2011; Sanchez & Levine, 2009; Schippmann et al., 2000). If this were the case, high-performing employees would rate most, if not all, competencies as highly important because all competency-related behavior would be equally reinforced by top management. Instead, competency models may communicate the organization's *realized* strategy. This is because they cascade the "dominant managerial logic," that is, the cognitive schema and behavioral scripts top managers' have developed over time (Prahalad & Bettis, 1986), downward through the organization. As such, high performers are more likely to exhibit rating patterns of competency importance similar to top management. This creates a convergence in the degree to which high-performing employees' and top managers' cognitive schemata align over time. In short, over time high-performing employees will discriminate among competencies they choose to enact because they begin to interpret their roles to include only those behaviors that better represent the strategic perspective of top management.

Figure 1 delineates our conceptual model. It posits a multistep process whereby an organization's strategy is translated into employee behavior, and is divided horizontally into two parts: underlying theoretical mechanisms and observable processes. It is also



**FIGURE 1** Observable processes

divided vertically into pre- and post-competency model implementation (or revision). The hypotheses derived from this model are developed below and shown in Figure 1.

### 3 | USING A COMPETENCY MODEL TO TRANSLATE ORGANIZATIONAL STRATEGY INTO EMPLOYEE BEHAVIOR

#### 3.1 | The strategic relevance and structural distribution of knowledge, attention, and behavior

Whereas recent research on competency modeling in psychology tends to simplify the notion of organizational strategy by treating it as a single overarching goal or set of objectives, the term strategy, as well as its various conceptualizations, have evolved over the course of a half century in the strategic management literature. Strategy is fundamentally concerned with choice and value creation in the face of competition (Porter, 1996; Rumelt, Schendel, & Teece, 1994). In this way,

organizational strategy *begins* with the identification of a value-creating competitive position (or the setting of an overarching organizational goal and an accompanying set of objectives) given an internal assessment of the organization's capabilities and an external assessment of the market conditions. Moreover, it is *derived from* the choices top management makes concerning, for example, which activities to perform, which courses of action to pursue, and how to allocate resources towards the attainment or maintenance of this competitive position (Chandler Jr., 1962; Porter, 1991, 1996). Within the human resource management literature, this is similar to the behavioral approach (e.g., Schuler & Jackson, 1987) that proposes that different complete strategies require different role behaviors on the part of employees.

Thus, *organizational strategy* cannot be fully captured by an organization's intended goals or set of objectives because this only captures the planned component of strategy (Mintzberg, 1978). Rather, it may be better defined as the emergent "pattern in a stream of decisions" over time (Mintzberg, 1978, p. 935) because this represents the organization's realized strategy encompassing both planned decisions as

well as those that actually occur. This distinction is important because it highlights knowledge, cognition, and behavior as integral and inter-related components of strategy (see Brymer et al., 2011).

The strategic management literature has historically focused on the roles knowledge and behavior play in organizations. One perspective, the knowledge-based view (KBV), proposes that “[organizations] exist as institutions for producing goods and services because they can create conditions under which multiple individuals can integrate their specialist knowledge” (Grant, 1996, p. 112). Proponents of the KBV also argue that organizations facilitate acquisition of new knowledge through the communication and transference of information and knowledge among groups of individuals (Nonaka & Takeuchi, 1995; Spender, 1996). This is precisely the premise that competency modeling is built on. In lay terms, this is akin to the assumption that it is possible to place a “more strategic head” on “less strategic” shoulders.

However, more recently, strategy scholars have begun to emphasize that knowledge and action are inseparable. For example, Brymer et al. (2011, p. 124–125) note that knowledge can be “conceived not only as a commodity to be exchanged, but also as a recursive process that cannot be separated from action, practice, or behavior” (also see Cook & Brown, 1999). Thus, a key departure from traditional conceptualizations of knowledge is that it is no longer considered to be a separate entity or static property of individuals, but rather one that is dynamic (Cook & Brown, 1999; Orlikowski, 2002). It is reconstructed continuously through its relationship to behavior and this relationship is “brokered” by cognition (Brymer et al., 2011). Knowledge generates behavior through cognition, and behavior, in return, reconstitutes knowledge through cognition. Thus, more recent strategic management theory identifies individual cognition and behavior as factors that should be considered in tandem with knowledge when examining a competency model's ability to communicate strategic concerns to employees throughout the organization. This requires us to establish where individual cognition and behavior are focused.

A primary cognitive factor that influences this brokering process between knowledge and behavior in organizations is individual attention. Drawing on the work of Simon (1997), March and Simon (1958), and Weick (1979), the attention-based view of the firm (ABV) argues that organizations are “systems of structurally distributed attention in which the cognition and action of individuals are not predictable from the knowledge of individual characteristics but are derived from the specific organizational context and situations that individual decision-makers find themselves in” (Ocasio, 1997, p. 189). The ABV offers three propositions. First, individual behavior depends on one's focus of attention. Second, one's focus of attention depends on the particular context or situation he or she is in (i.e., situated attention). Third, the context or situation in which one finds him or herself depends on the organizational structure (i.e., structural distribution of attention). With regard to this third proposition, Ocasio notes that “attentional processes of individuals and group decision-makers are distributed throughout multiple functions that take place in organizations, with different foci of attention in each local procedure, communication, or activity. Each local activity within the firm involves a set of procedures and communications, and these procedures and communications

focus the attention of decision-makers on a selected set of issues and answers” (1997, p. 191; also see Simon, 1997). The ABV with its focus on influencing the attention of employees to change their behavior to support the strategy is similar to the behavioral approach in the human resource management literature (e.g., Schuler & Jackson, 1987) where different competitive strategies are assumed to communicate different role behavior expectations to the employees.

In summary, the strategy literature suggests that by virtue of placing them in different positions throughout the organizational hierarchy, organizations prompt members to direct both their behavior and attention to the tasks and information associated with their specific jobs. The result of this is a differentiation of individual knowledge, attention, and behavior across jobs and hierarchical levels (Gavetti, 2005; Grant, 1996; Ireland et al., 1987; Ocasio, 1997).

When meaningful changes in strategy occur, the organization's competency model is also likely to change. For example, Diaz Fernandez et al. (2014) found that a prospector strategy was associated with proactive and customer oriented competencies, while a defender strategy was associated with more results oriented competencies. One direct way to determine whether the changes to the competency model is affecting the attention and behavior of employees is to assess employees' knowledge of job-oriented activities and worker-oriented attributes associated with the changes. However, because we are interested in demonstrating that (a) individuals attend to their jobs, and (b) individuals' attention to their work-related behavior continuously reconstitutes or modifies their knowledge of the job's activities and the attributes required, we must show that individuals are capable of tracking changes in activities and attributes *over time*. Therefore, as depicted in Figure 1, we hypothesize:

**Hypothesis 1a:** In general, members of the organization are capable of accurately reporting changes in job-oriented activities and worker-oriented attributes over time in their respective jobs.

Furthermore, structurally distributed knowledge, attention, and behavior may be best reflected in the distinction of the understandings between top management (strategic decision-makers) and employees. This is the case for two reasons. First, one of the most salient ways in which individuals are structurally distributed throughout organizations is by hierarchical level (Thompson, 1967). Second, these two types of jobs lie on opposite ends of the structural continuum in most organizations with top managers representing the strategic apex of the organization and lower level employees often representing the technical core (Mintzberg, 1979). Therefore, this study will examine both separately.

In order to demonstrate that these two groups have different understandings of the changes in the competencies, we must show that they not only have different levels of recognition of the changes to the competencies, but also that they each have a degree of consensus on their understandings of the changes. Thus, we also hypothesize the following:

**Hypothesis 1b:** Top managers will exhibit a high degree of consensus in their estimates of changes in job-oriented activities and worker-oriented attributes.

**Hypothesis 1c:** Lower level employees will exhibit a high degree of consensus in their estimates of changes in job-oriented activities and worker-oriented attributes.

**Hypothesis 1d:** Top managers will recognize changes in strategically relevant job-oriented activities and worker-oriented attributes.

### 3.2 | Differing dominant logics: An initial hindrance to organizational strategy translation

If individuals' knowledge, attention, and behavior are focused on factors largely associated with their specific jobs, it is important to examine the implications of this for how they are likely to process information issued by a competency model.

In order to understand how this occurs and the implications of this phenomenon for strategy enactment in organizations, strategic management researchers have proposed a concept called dominant logic. A *dominant logic* is defined as a conceptualization of the business which is stored as a shared cognitive map (or set of schemata) among organizational members in a coalition and is expressed as learned, problem-solving behavior (Prahalad & Bettis, 1986). Because the roles individuals play in enabling the organization to function fundamentally differ across levels of the organizational hierarchy (Mintzberg, 1979), disparities exist across levels in terms of the types of tasks individuals become accustomed to performing, the decisions they become accustomed to making, and the types of information they are faced with processing on a day-to-day basis (Mintzberg, 1979; Nonaka & Takeuchi, 1995; Ocasio, 1997). This suggests that separate and somewhat distinct dominant logics are likely to manifest for top managers and lower level employees (Ireland et al., 1987; Nonaka & Takeuchi, 1995; Porter, 1996; von Krogh & Roos, 1996). As a result, individuals at different levels throughout the organization begin to diverge in terms of how they legitimize and value information because their particular dominant logic filters out information not immediately relevant to their work (Bettis & Prahalad, 1995; Ocasio, 1997; von Krogh & Roos, 1996; cf. Kor & Mesko, 2013). Consistent with this argument, more recent theoretical work on the concept of dominant logic suggests that multiple dominant logics coexist within organizations, that they exist at different levels (e.g., individual, group, organization), and that they differ depending on group membership (von Krogh & Roos, 1996).

Thus, as shown in Figure 1, the problematic implication for competency modeling is that top managers and lower level employees are likely to fundamentally differ in terms of their perceptions of which activities should be done and which behaviors should be exhibited and why (see Ireland et al., 1987, for a similar argument). When a competency model is initially developed or revised (i.e., new competencies are added to the model), top management is likely to base

their judgments of competency importance on knowledge acquired through their role in enabling the organization to "realize" a strategy over time. Conversely, employees at lower levels are likely to base their judgments of competency importance on the knowledge acquired through the idiosyncratic ways in which they conceptualize the roles they enact on the job (Lievens & Sanchez, 2007; Lievens et al., 2010; Lievens et al., 2004; also see Weick, 1979). Of course, there may be exceptions to the broader perspective of top management such as those in a corporate staff specialty role with a narrow focus, or in charge of addressing a narrow set of problems or outcomes (e.g., quality, customer service, or margin), but generally they have broader accountabilities and thus given a more important role in strategy development.

Research on job analysis supports this view that separate dominant logics exist for top managers and lower level employees and that group membership is likely to affect one's rating pattern. For example, when conducting a job analysis for lower level positions, subject matter expert (SME) samples often include managers in addition to lower level employees for this reason (Brannick, Levine, & Morgeson, 2007). Research on competency modeling also supports this view. For example, Lievens et al. (2004) found that competency rating patterns differ depending on whether individuals are basing judgments on only task-related information or on a blend of task-related information and business and HR strategy expertise. In addition, Lievens and Sanchez (2007) found that exposing consultants to frame-of-reference (FOR) training (and instructing them to base their judgments on the tasks specific to the job) resulted in them exhibiting different patterns of competency ratings when compared to a control group.

One key feature of competency modeling that makes it distinct from job analyses is that it is a top-down process, as opposed to the bottom-up process of job analysis, which makes it a useful tool for organizational change (see Campion et al., 2011, for discussion of the distinctions between competency modeling and job analysis). However, there is a bottom-up influence from employees in at least two ways. First, they often provide the basic job analysis information used as input to the model that describes the way the jobs are currently. Second, it is likely that employees have input to the strategic direction by providing feedback to management about the effectiveness of the current strategy as well as suggestions for improvements to the strategy. The KBV of the firm does not necessarily assume that insights from one level are more relevant than another. In fact, if employee insights on the organization's strategy are ignored, they are likely to feel disrespected and become disengaged.

Nevertheless, initially individuals at different levels of the organization are likely to be guided by different dominant logics, and dominant logics are theorized to impact the way in which individuals legitimize and value new information. Thus, as depicted in Figure 1, after changes to the competency model are implemented, top managers and lower-level employees will each have an understanding of competency importance as indicated by some consensus, but top managers will rate the competencies recently added as more important because they helped create the realized strategy and possibly also revise the model.

**Hypothesis 2a:** Top managers will exhibit a high degree of consensus in their ratings of how important competencies are that have been recently added to the model.

**Hypothesis 2b:** Lower level employees will exhibit a high degree of consensus in their ratings of how important competencies are that have been recently added to the model.

**Hypothesis 2c:** Top managers and lower level employees will diverge in their ratings of how important competencies are that have been recently added to the model such that top managers will assign these competencies a higher level of importance.

### 3.3 | The virtuous loop between employee ratings of competency importance and top management's evaluation of job performance

Although factors such as differing dominant logics across hierarchical levels exist with the potential to hinder a competency model's capacity to translate the organization's strategy into employee behavior, there are also likely to be mechanisms that enable this process. These are the factors that might prompt lower level employees to change their conventional mindsets and reinterpret their roles to include "behavioral themes" that render them strategy executors rather than employees fulfilling narrow roles (Sanchez & Levine, 2009).

The view that knowledge, attention, and behavior—and by implication—knowledge of competency importance, attention, and competency-based behavior are inseparable suggests that, at the individual level, a constant loop exists between what individuals know about competencies and whether they exhibit them. It also suggests that individuals attend to the consequences of exhibiting competencies using them as feedback in making subsequent alterations to their schemata (Brymer et al., 2011). By having a competency model in place, organizations offer prescriptive information regarding how lower-level employees should interpret their job roles in order to perform with excellence (Campion et al., 2011; Mirabile, 1997; Sanchez & Levine, 2009). One might argue that a talent management system integrated around a core set of competencies sends a strong signal throughout the organization, namely, that performance related to such competencies is expected. Thus, individuals' knowledge of important competencies should directly correspond to the competencies' capacity to enhance their performance when demonstrated on the job.

Consistent with these ideas, research on performance appraisal and feedback suggests that the feedback rates receive from performance appraisal can have a large effect on the quality of their decision-making and interpretation of their present and future roles in organizations (Murphy & Cleveland, 1995). For example, Ilgen, Fisher, and Taylor (1979) propose that (high quality) feedback regarding one's performance can directly impact one's knowledge of the appropriateness of behaviors. Similarly, Ashford and Cummings (1983) note that feedback acquired through information seeking is "a primary means of reducing uncertainty" (p. 374). Information is only functional if it

modifies individuals' previously held knowledge in some way; this contention is evident in their argument that feedback serves a "competence creating function" (Ashford & Cummings, 1983, p. 375). Of course, a performance management system would be limited if it did not also include employee input, which would further increase understanding of the competencies. Thus, as Figure 1 suggests, the relationship between one's perceptions of how important specific competencies are and his or her performance may be virtuous or self-reinforcing. For these reasons, we hypothesize the following:

**Hypothesis 3:** A virtuous loop exists in the relationship between individuals' ratings of competency importance and individuals' job performance, such that greater initial ratings of competency importance will predict higher levels of subsequent job performance, and higher levels of job performance will incrementally account for subsequently higher ratings of competency importance.

Note that this hypothesis examines only individual performance and not collective performance. In an organization in which collaborative behavior is critical and rewarding individual performance would cause dysfunctional competition, then the competency model and the appraisal should be aligned with this strategic environment.

### 3.4 | Intended versus realized strategy and the alignment of cognitive schemata between top management and high performers over time

Recall that above we echoed the distinction first made by Mintzberg (1978) between an organization's intended strategy and its realized strategy. This distinction is important because the organization's strategic vision most closely approximates the *intended* or ideal strategy forecasted into the future. It does not necessarily reflect future strategic activities that actually occur, the strategic decision-making behaviors top management exhibits in the future, or how these concerns cascade down to, and lead to the adjustment of, employee role interpretation in real time (Mintzberg, 1978). An organization's realized strategy is more labile and, because of this, ensuring alignment of lower-level employee behavior requires reinforcement and feedback by top management. Indeed, as Porter (1996) notes, individuals at "lower levels lack the perspective... to maintain a strategy" (p. 18). He states that mechanisms such as strong leadership therefore are required in order to communicate strategy by reinforcing and guiding its enactment at lower levels over time (Porter, 1996). Thus, competency models likely translate the organization's *realized* strategy into employee behavior over time, and this process may occur in two stages.

First, competency models are likely to communicate the organization's intended strategy to employees by supplying rule-based or directive information to employees. Research on competency models indicates that they are prescriptive in that they isolate and communicate information regarding how organizational members should interpret their roles (Campion et al., 2011; Fink, 2007; Sanchez & Levine, 2009). Thus, the development or revision of a competency model may provide an initial and selected set of propositions or "starting points,"

upon which employees begin to re-construct their roles within the organization.

Next, competency models are likely to translate the organization's realized strategy into employee behavior because they allow top managers to cascade their dominant logic downward through the organization over time partly by using the performance appraisal process to provide feedback and reinforcement for employee behavior consistent with the strategy. By creating a direct connection between how top management expects roles to be interpreted and how roles are actually interpreted by lower level employees, the competency model thus acts as a unifying FOR. As individuals at lower levels of the organization become aware of the linkages between whether they exhibit competency-based behavior and whether this relates to top managers' evaluations of their job performance, their schemata (or knowledge of competency importance) are likely to shift and become more aligned with those of upper management. As this process occurs, lower level employees become more capable of translating strategy into day-to-day behavior within the context of their own job. In summary, as employees change their behavior and are evaluated as higher performing, they will report greater agreement with top management on the importance of the competencies reflecting the new strategy.

This argument is consistent with research on FOR training as this practice has been demonstrated to have a profound effect on individual schema as well as individual competency ratings. For example, Woehr (1994) found that FOR training induced a change in individuals' information processing approaches resulting from the formation of a shared performance schema among a group of individuals. Similarly, Lievens and Sanchez (2007) found that the use of FOR training resulted in augmented levels of interrater reliability among raters making judgments of competency importance. Moreover, this argument also runs parallel to research in strategic management and, more broadly, organizational theory. Specifically, it has been suggested that there are mechanisms that integrate knowledge and behavior through the prescription of rules and directives and others that promote knowledge integration and thus a *degree* of alignment of perspectives across hierarchical levels by creating knowledge redundancy (Grant, 1996; Nonaka & Takeuchi, 1995).

For all these reasons, as shown in Figure 1, we hypothesize the following:

**Hypothesis 4:** To the extent that employees perform at higher levels they will also demonstrate a greater level of agreement with top managers on their ratings of which competencies are important.

## 4 | METHOD

### 4.1 | Study context

This study included individuals employed in professional positions within an agency of the U.S. government. As with many organizations, this governmental agency implements frequent incremental changes

to its strategy in response to changes in the environment within which it operates. In conjunction with these changes to strategic policy, the competency model is revised on a continuing basis in order to ensure alignment between strategy and member behavior. Although we were not able to obtain information regarding the specific changes to the agency's strategy prior to data collection in 2005, we were privy to information regarding the nature of the strategic change initiatives that were being implemented at the time of data collection (i.e., between 2005 and 2011). Recent changes in the environment have resulted in this agency's adoption of policies that stress a more strategic or long-term focus, rather than a tactical or short-term focus. For example, this agency has begun to rely more on advocacy and less on simple promotion, which led to changes in the competency model such as less emphasis on project management and more on critical analysis and persuasion. As such, the data used in this investigation was part of a project instituted by the agency with the primary goal of gathering information to develop a new competency model which would replace the previous version (from 2005) and serve in the successful implementation of strategic change.

### 4.2 | Participants

The entire population ( $N = 218$ ) of individuals to whom this competency model applies were surveyed. The response rate was 81.2%, giving us a sample size of 177 participants. Note that the response rate was 93.2% when excluding those unable to respond for various reasons (e.g., leave of absence). Participants within this sample occupied seven class levels with one person from level 1 (1%) (i.e., the highest level), nine from level 2 (5%), 25 from level 3 (14%), 39 from level 4 (22%), 36 from level 5 (20%), 28 from level 6 (16%), and 39 from level 7 (22%) (i.e., the lowest level). Within this sample, there were six individuals occupying corporate level top management positions, and this is the entire top management group. Therefore, these six individuals comprised our top management group within our sample. The rest occupy positions out in the field. Thus, differentiation by class relates primarily to pay grade, but employees may rotate between corporate and field assignments over time. As in most organizations, the corporate employees perform more of the managerial work, which includes strategic planning, while field employees perform more of the hands-on operational work, which includes the more technical components. In terms of gender, 101 participants were male (57%), 48 were female (27%), and 28 chose not to respond (16%). Average age was 48.9 years ( $SD = 8.26$ ), and mean tenure with the organization was 12.33 years ( $SD = 7.91$ ). Due to missing data, analyses varied in terms of the number of participants included in them.<sup>1</sup>

### 4.3 | Procedure

The revision of the competency model began with the collection of information from top corporate-level managers using interviews and focus groups. They were those assigned to corporate jobs and responsible for developing the strategic direction. They were mostly in the top two or three classes. This information was used to identify

potential competencies to include in the new model. Next, these potential competencies were used to develop a survey. This survey was administered to all members throughout the organization to collect information regarding the importance of the potential competencies on the job. The surveys provided the job analysis data to inform the development of the competency model. Using job analysis data as input to competency model development is a best practice to improve the rigor (Campion et al., 2011). The job analysis information describes the way the jobs are currently. Senior management then used this information to develop the model. They also used information on the trends in the field and the organization's strategic plans to address those trends.

This process occurred for the surveys used in 2005 and 2011. The survey items were virtually identical to the actual competencies in the models developed. The 2011 survey also included a number of questions regarding task and competency items used to assess changes in the job-oriented activities and worker-oriented attributes. This activity- and attribute-related change information together formed the basis for what resulted in a revised and improved version of the previous competency model.

## 4.4 | Measures

### 4.4.1 | Job performance

Each year every individual in the agency is ranked against every other employee to which this competency model applies within the organization based on overall performance. These rankings are determined by a panel of top managers who based their decisions on information acquired from detailed narrative performance reviews written by the supervisor of each job incumbent each year. The promotion system in this organization is based on an "up-or-out" system where job performance and the ranking process determine who is promoted and how long they remain employed. For this study, we were able to obtain each individual's three most recent rankings. We then created an index of performance by averaging the three rankings together in order to obtain a more reliable (i.e., stable) measure of job incumbent performance. The potential downsides of performance ranking systems, such as promoting undesirable competition and lack of teamwork, have been well recognized in the research literature (for a review, see Dominick, 2009). However, a ranking system can be advantageous because it avoids the major skewness, range restriction, and unreliability problems that plague performance ratings (Bernardin & Beatty, 1984; Heneman, 1986). This organization avoids these potential limitations by designing its ranking system to detect and penalize unproductive competition, while rewarding collaboration and teamwork.

### 4.4.2 | Competency survey in 2005

The final survey in 2005 included 57 KSAO-related competency items.<sup>2</sup> Example competencies include customer service, networking, economic analysis, creativity and innovation, and results orientation. The

competency items were rated on a 5-point Likert-type scale indicating their importance for effective performance on the job (1 = not important, 2 = somewhat important, 3 = important, 4 = very important, and 5 = extremely important). The competency section contained 51 competencies that were identical in the competency and activity- and attribute-related change survey in 2011 described below, 20 of which were new competencies that were added to the model in 2005. Finally, information was gathered regarding several tasks in this survey in order to allow us to create a measure of actual activity- and attribute-related change (see below). The entire survey was administered electronically, and it took approximately 60 min to complete.

### 4.4.3 | Competency and activity- and attribute-related change survey in 2011

The final survey included 71 KSAO-related competency items and 25 activity- and attribute-related change items. The competency items were rated on the same importance scale as above.

The activity- and attribute-related change section included 16 task items and nine competency items that were chosen based on expected variance. That is, about half of the task and competency items were expected to have changed, while the other half were expected to have remained somewhat stable. The basis for including the task and competency items in the activity- and attribute-related change section was based on interviews with corporate staff. The activity- and attribute-related change section instructions read as follows, "consider the work of the agency in general now compared to five years ago with respect to each item." Incumbents then responded on a 6-point Likert-type scale indicating the degree of change (0 = do not know, 1 = much less important now than 5 years ago, 2 = slightly less important now than 5 years ago, 3 = remained about the same, 4 = slightly more important than 5 years ago, and 5 = much more important than 5 years ago). The entire survey was administered electronically, and it took approximately 60 min to complete.

### 4.4.4 | Strategically relevant activity- and attribute-related change

Of the 16 task and nine competency items, there were nine items in total that captured activity- and attribute-related changes that had occurred as the organization's strategy evolved between 2005 and 2011. Of these nine items, six had become emphasized to a greater degree (e.g., customer service), while three had become emphasized to a lesser degree (e.g., advocacy of only major projects).

### 4.4.5 | Actual activity- and attribute-related change

In order to test whether organizational members were capable of accurately reporting changes in activities associated with their work and attributes required to perform this work (thus providing evidence of where their attention, knowledge, and behavior are focused), we needed to first develop a measure of actual activity- and attribute-related change. This is because only a small number of individuals

took both surveys ( $n = 45$ ) and they would likely be in different jobs because the organization reassigned employees among jobs to serve both staffing and development needs. As a result, we could not compare their ratings in 2011 to those in the 2005 survey. Therefore, we created an index of actual change in activities and attributes by class levels because the job assignments within a class tend to be similar. First, we computed the mean level of importance for each activity- or attribute-related change item by class (i.e., level 1 through level 7) in year 2005 and year 2011. Next, we subtracted the mean importance level reported for each of these items in year 2005 from the mean importance level reported in year 2011 by class.

## 5 | RESULTS

Hypothesis 1a predicted that members of the organization would be capable of accurately reporting activity- and attribute-related change in their respective jobs. This was tested by correlating individual employee ratings in 2011 with the mean change between 2005 and 2011 based on the entire samples of respondents. Significant correlations are interpreted as support because they indicate that higher (lower) ratings on importance in 2011 are related to increases (decreases) in the importance ratings between 2005 and 2011. As such, higher ratings in 2011 suggested the employees recognized the increases in importance of the various competencies (and vice versa). As Table 1 indicates, this hypothesis was supported. Members of this organization were capable of accurately reporting changes in the level of importance of 20 of the 25 activity- and attribute-related change items ( $p < .05$ , one-tailed). Hypotheses 1b and 1c were tested by computing the intraclass correlation (ICC)(2) for the competency ratings made by each group (top management and job incumbents). A high ICC(2) suggests greater consensus (intragroup agreement) in ratings because it indicates that between group variance is greater than within group variance, that is, the ratings are more influenced by differences among competencies than differences among individuals, which is the most commonly recommended test for consensus within groups (LeBreton & Senter, 2008; Shrout & Fleiss, 1979). Hypothesis 1b predicted that top managers would exhibit a high level of consensus with respect to their estimates of activity- and attribute-related change. ICC was used because it is a customary measure of consensus defined as interrater reliability. When including the whole sample of top managers ( $n = 6$ ), the ICC(2) for their ratings of activity- and attribute-related change was .09. Given that our sample was small, we explored whether this low level of interrater reliability may have been impacted by one or two aberrant cases. Upon removal of one outlying case, the ICC(2) increased to .44. When removing both aberrant cases, the ICC(2) improved to .69. Thus, although Hypothesis 1b was not supported, it may be due to the small sample and impact of outlying cases. Hypothesis 1c predicted that job incumbents would exhibit a high level of consensus with respect to their estimates of activity- and attribute-related change. The ICC(2) for our sample of job incumbents was .94 thus providing support for this hypothesis.

**TABLE 1** Correlation between activity- and attribute-related change ratings and actual activity- and attribute-related change

Variable	N	r
Activity-related change 1	118	.14
Activity-related change 2	133	.11
Activity-related change 3	118	.25**
Activity-related change 4	102	.28**
Activity-related change 5	122	.38**
Activity-related change 6	128	.28**
Activity-related change 7	127	.15*
Activity-related change 8	127	.50**
Activity-related change 9	115	.13
Activity-related change 10	73	.39**
Activity-related change 11	102	.20*
Activity-related change 12	115	.37**
Activity-related change 13	132	.09
Activity-related change 14	133	.18*
Activity-related change 15	132	.31**
Activity-related change 16	136	.38**
Attribute-related change 17	140	.16*
Attribute-related change 18	138	.29**
Attribute-related change 19	120	.30**
Attribute-related change 20	139	.14*
Attribute-related change 21	139	.28**
Attribute-related change 22	139	.11
Attribute-related change 23	131	.46**
Attribute-related change 24	136	.30**
Attribute-related change 25	142	.23**

\* $p < .05$ , \*\* $p < .01$ .

Hypothesis 1d predicted that top managers would have recognized strategically relevant activity- and attribute-related changes. To provide a statistical test of this hypothesis, all nine strategically relevant activity- and attribute-related change items were combined into a composite rating for the top management group and for the lower level employee group (with those items expected to decrease in importance reverse scored). A higher score on the composite would indicate higher ratings for the strategically relevant competencies. Findings indicated that the effect was of marginal significance ( $M = 3.44$  for top managers versus  $M = 3.21$  for lower level employees,  $t = 1.38$ ,  $p = .08$ , one-tailed). Thus, Hypothesis 1d was partially supported. Analysis of the mean differences between groups across all nine items revealed that seven out of nine exhibited mean differences in the expected direction. That is, for items that had increased in strategic emphasis the mean rating was greater for top managers than for lower level employees, and, for items that had decreased in strategic emphasis, the mean rating was lower for top managers than for lower level employees. Thus, marginal significance may have been due to a low level of statistical power (i.e., the fact that the top management group contained only six individuals).

Hypothesis 2a predicted that top managers would exhibit a high level of consensus with regard to their importance ratings of competencies newly added to the model. This hypothesis was not supported with an ICC(2) of  $-.05$ . In line with previous work in competency modeling (e.g., Lievens et al., 2004; Lievens & Sanchez, 2007), this finding suggests that top managers are not distinguishing among competencies when they are first added to the model. Instead they may see them all as being of high strategic relevance. Indeed, the mean importance level assigned to new competencies was  $4.71$  ( $SD = .56$ ) on a 5-point scale. In contrast, the mean level of importance assigned to new competencies by lower level employees was  $4.38$  ( $SD = .80$ ). Hypothesis 2b predicted that lower level employees would exhibit a high level of consensus with regard to their importance ratings of competencies newly added to the model. This hypothesis was supported with an ICC(2) of  $.92$ . Hypothesis 2c predicted that top managers and job incumbents would diverge in terms of the importance they assign to competencies recently added to the model such that top managers would assign a higher level of importance to these competencies. The mean difference between ratings made by top managers and lower level employees was  $.33$  ( $d = .87$ ), and a  $t$  test comparing the means of the two groups was significant ( $p < .05$ , one-tailed), thus supporting Hypothesis 2c.

Hypothesis 3 predicted that a virtuous loop exists between competency importance ratings and job performance. This required a mediation analysis to test whether greater initial ratings of competency importance will predict higher levels of subsequent job performance, and higher levels of job performance will incrementally account for subsequently higher ratings of competency importance. In order to test this hypothesis, we used the PROCESS macro developed by Hayes (2013) because it uses a bootstrap analysis that helps avoid capitalization on chance with small samples. We constructed bias-corrected confidence intervals based on 5,000 random samples drawn from a subsample of individuals that took part in the 2005 and 2011 surveys ( $n = 45$ ) with replacement. In order to interpret the mediation effects, we examined the asymmetric bootstrap confidence intervals of the indirect effect (Hayes, 2013; MacKinnon, Fairchild, & Fritz, 2007; Preacher & Hayes, 2008). As Table 2 demonstrates, this

hypothesis was supported. The average level of importance of competencies newly added to the competency model at time one (i.e., 2005) was significantly related to the average level of importance of the same competencies at time three (i.e., 2011) ( $\beta = .76$ ,  $p < .01$ ), and this relationship was partially mediated by job performance at time two ( $\beta = .08$ ) with the 90% confidence interval excluding zero (lower:  $.001$ , upper:  $.244$ ). Note that a 90% confidence interval was used because we were interested in examining whether there was a *positive* change in the importance level of the competencies newly added to the model over time (i.e., a virtuous loop versus a vicious loop), thus we needed 5% in each tail which required specifying the 90% interval in the program. As a supplemental analysis, we also investigated the same relationship across all competencies within the model (old and new) while excluding competencies with an average level of importance above 4.5. This was done in order to examine whether the hypothesis held across all competencies and, by excluding cases where the initial average rating was very high, we attempted to control for the ceiling effect often found in job analysis and competency modeling research (Morgeson, Delaney-Klinger, Mayfield, Ferrara, & Campion, 2004). The hypothesis was again supported. The average ratings of competency importance at time one (i.e., 2005) was significantly related to competency ratings at time three (i.e., 2011) ( $\beta = .57$ ,  $p < .01$ ) and partially mediated by job performance ( $\beta = .06$ ) with the 90% confidence interval excluding zero (lower:  $.0001$ , upper:  $.19$ ).

Hypothesis 4 predicted that lower level employees demonstrating higher levels of job performance would exhibit competency importance rating patterns more aligned with those exhibited by top management. In order to test this hypothesis, a variable had to be created representing the degree to which the rating pattern of each employee covaried with the average rating pattern of top management. This covariation variable was computed in two steps. First, an average level of importance was computed for each of the 71 competencies for the top management group. Second, lower level employee ratings of all 71 competencies were correlated with the average ratings of the top management group. The result was a single variable indicating the job incumbent's degree of covariation with top management. After this variable was created, each job incumbent's level of job performance

**TABLE 2** Regression results for job performance as a mediator of knowledge of competency importance over time

Variable	B	SE	t	p
Direct and total effects				
Competency importance at time 3 regressed on competency importance at time 1:	.76	.14	5.34	.00
Job performance at time 2 regressed on competency importance at time 1:	.12	.07	1.64	.11
Competency importance at time 3 regressed on competency importance at time 1 controlling for job performance at time 2:	.68	.14	4.88	.00
Competency importance at time 3 regressed on job performance at time 2 controlling for competency importance at time 1:	.66	.28	2.33	.02
	M	SE	LL 90% CI	UL 90% CI
Bootstrap results for indirect effect				
Mediating effect of job performance	.08	.07	.001	.24

Abbreviation: CI, confidence interval; LL, lower limit; UL, upper limit.

was correlated with his or her covariation variable. Results indicated that job performance correlated positively ( $r = .18, p < .05$ ) with the degree to which job incumbent ratings covaried with top management's competency ratings. Thus, Hypothesis 4 was supported. Employees with higher job performance showed a pattern of competency ratings more similar to top management's.

## 6 | DISCUSSION

Previous competency modeling research has tended to focus primarily on issues corresponding to the development of competency models in organizations (e.g., Lievens et al., 2004; Lievens et al., 2010; Lievens & Sanchez, 2007). While valuable, it must be supplemented with research to enhance our understanding of how competency models operate once developed. Thus, the goal of the present work was to further this effort by developing a conceptual model that explicitly examines the role competency models play in driving the organizational strategy down to the level of employee behavior.

Our conceptualization underscored the roles that knowledge, attention, and behavior play when attempting to understand the linkages between organizational strategy, competency models, and employee behavior. We argued that, because individuals at different hierarchical levels are likely to attend to different factors, somewhat different dominant logics are likely to manifest at each level. As such, an impediment may exist initially in competency modeling such that individuals at different hierarchical levels may exhibit diverging perceptions of the importance of competencies when they are initially entered into the competency model. Results were fairly supportive of this notion. We found that individuals were capable of fairly accurately tracking changes in job-oriented activities and worker-oriented attributes within their respective jobs over time. We also found some evidence to suggest that top managers may recognize changes in activities and attributes that correspond to the evolution of organization's strategy sooner than lower level employees. Thus, our theoretical argument of structurally distributed and situated attention, knowledge, and behavior was generally supported (Ocasio, 1997). Further, although support was found for consensus among ratings of competency importance at the employee level but not for the top management level, there was a significant difference between these two levels with regard to how important members of the organization understood newly added competencies to be.

Next, we integrated research from strategy and psychology to examine the processes that underlie the operation of competency models in organizations. This allowed us to shed light on processes downstream of competency model implementation or revision. We proposed that, although some debate exists as to whether competencies should be viewed as performance predictors or performance criteria in organizations (Bartram, 2005; Campion et al., 2011; Pearlman, 1997; Sanchez & Levine, 2009; Schippmann et al., 2000), in the minds of employees, perceptions of competencies are a function of schemata resulting from the recursive relationship between knowledge and behavior (or job performance) (Brymer et al., 2011; Orlikowski, 2002).

Thus, a virtuous loop is likely to exist such that individuals over time may grow to assign heightened levels of importance to competencies provided they find that they predict higher levels of job performance (Ashford & Cummings, 1983; Ilgen et al., 1979). Moreover, we highlighted the distinction between an organization's intended strategy and its realized strategy (Mintzberg, 1978). We used this distinction to argue that competency models may actually translate an organization's strategy into employee behavior in an iterative manner. They begin by offering a set of propositions to employees as to how they should enact their behavioral roles as previous research has suggested (e.g., Sanchez & Levine, 2009). Next, they reinforce and guide strategic behavior at lower hierarchical levels as top managers use them as a mechanism to drive their dominant logic downward through the organization. The intention of this is to alter cognitive schemata of lower level employees in such a way that they become aligned with those of top management. Thus, by having a competency model in place and reinforcing the relationship between competency demonstration and performance ratings over time, those who perform at higher levels are likely to reinterpret their roles to include those behaviors that align with the more strategic perspective of top management. Our results were consistent with these arguments. We demonstrated that ratings of competencies newly added to the model predicted higher subsequent levels of job performance, which, in turn, predicted higher subsequent ratings of the same competencies. Further, level of job performance predicted the degree to which individuals tended to demonstrate rating patterns similar to those of top management.

### 6.1 | Opportunities for expanding the model to further enhance competency modeling theory

#### 6.1.1 | Integrated talent management

Competency models occupy a central position in most staffing systems of large organizations today. For example, Stone, Webster, and Schoonover (2013) report that 70–80% of fortune 500 companies rely on a competency model as a foundation for their talent management systems. Our model highlights several opportunities to extend competency modeling scholarship as it relates to talent management. First, the relationships between dominant logic, competency ratings, and performance should be elaborated upon to examine their implications for the succession management process in organizations. A major point of contention regarding succession management in organizations is the measurement and meaning of potential. While there is general agreement that potential relates to one's ability to perform at higher hierarchical levels, some argue that potential is a function of one's performance in his or her current position and others argue that it relates to one's forecasted ability to develop. Our model begins to inform these issues in the sense that potential might be defined and operationalized, in part, as the extent to which rising employees' schemata are consistent with the dominant managerial logic as reflected in their ratings of competency importance. Thus, one possible next step would be to examine whether degree of potential (e.g., low, medium, and high) might be assessed through examining the degree to which

employee's schemata are more consistent with the dominant logic of those at hierarchical levels above them.

Second, the nature of this virtuous loop should be fleshed out further. For example, research on plateauing might be incorporated to examine whether the strength of this loop attenuates over time as individuals reach levels of performance that they consider to be adequate. Research should also investigate whether certain types of competencies are more readily accepted or translated into behavior than others (e.g., technical vs leadership). Still another possibility would be to draw on previous job analysis research to identify other possible moderators or mediators such as organizational structure and size, interdependence, autonomy, personality, and cognitive ability that are likely to influence this process.

### 6.1.2 | Industry characteristics

Competency models differ across industries. For example, given that organizations in certain environments benefit from different types of dominant managerial logics, competency models might be built to promote rapid resource deployment and competitive action in some contexts and built to promote stability in others. If this is the case, how does this affect the characteristics of the set of competencies included? Similarly, do organizations in different industries require competency models that are more or less future-oriented? One would expect that developing competency models that are extremely future-oriented that accurately forecast the demands of the environment is difficult especially in high-velocity environments. Thus, another important question is whether more frequent revision acts as an effective surrogate for future-orientedness. Because it specifically incorporates the issues of time and dominant logics, the model proposed in this article can be built upon in order to begin to address these questions. Additionally, industry characteristics, degree of future-orientedness associated with the model, and organizational outcomes such as performance could be added to the model.

### 6.1.3 | Culture and climate

There has been a steady increase in the quantity of writings advocating a shift towards integrating what has been learned through decades of research on staffing and personnel selection with issues of strategic direction of the organization and fit (e.g., Ployhart, 2012; Ployhart, Hale, & Campion, 2014; Ployhart & Schneider, 2012). Proponents of this view frequently mention the need to consider culture and climate. Competency modeling is related to culture and/or climate in two ways. First, it has been suggested that, in order to be effective, a competency model must reflect the organization's culture (Sanchez & Levine, 2009). Competencies within the model should be developed using a language that fosters unity and utility. Second, it has been proposed that competency models, acting as an organizational intervention, might be used as a way to affect culture change (Campion et al., 2011).

This begs a number of questions. For example, should competency models be developed to promote stability, would this entail a bottom-up developmental process in which competencies are developed to

reflect the dominant employee logic, and when would this be the best option? Conversely, should competency models be developed to promote strategic flexibility, would this entail a top-down developmental process in which competencies are developed to reflect the dominant logic of top managers, and when would this be a better option? Furthermore, can competency models be used to enhance or promote a particular climate? For example, in the service context, a competency model might be advantageous in accelerating the development of a climate for service. By proposing a framework attempting to elucidate the linkage between strategy and employee behavior, our model offers a foundation to be used as researchers begin to answer a number of these questions.

### 6.1.4 | The role of employees in model development

The conceptual framework developed in this study did not include the employees' role in competency model development. As noted, they likely have input by providing job analysis information on the way the jobs are currently, and they may have direct input to the model or provide feedback on the model to top management. This is a boundary condition of the current model and a useful direction for future research.

## 6.2 | Practical considerations

The present study offers several important implications for organizations using competency models. First, previous research indicates that one of the critical issues associated with the successful use of a competency model in organizations is buy-in (or employee acceptance) (Campion et al., 2011; Stone et al., 2013). Our study suggests that this issue may stem from two sources. One source may be an artifact of structurally distributed and situated attention and the differing dominant logics that manifest by hierarchical level as a result (Ocasio, 1997; von Krogh & Roos, 1996). If low levels of buy-in are a consequence of misaligned cognitive schemata, the implication is that attempts to remedy this issue by making competencies more job-focused may be unwarranted because they might sacrifice the overall strategic value of the model. Further, buy-in may be an issue for organizations using competency models only initially upon implementation; alignment may be possible to create over time as shown in this study. Another source of the buy-in problem may be a function of the difference between an organization's intended and realized strategy. If low levels of buy-in are a consequence of the organization's realized strategy bearing little resemblance to its intended strategy, top management should recognize the potential disconnect in employees' minds and take steps to communicate how the realized strategy has turned out differently and the implications for the necessary competencies.

Second, previous research has indicated that another major difficulty associated with developing and successfully using competency models in organizations is the "inferential leap" required in determining what competencies should be included in the competency model (Lievens et al., 2004; Lievens & Sanchez, 2007). Two suggested methodologies offered to contend with this issue are the inclusion of more

detailed task-related information when developing the competency model and the use of frame of reference training. These methods of competency model development are intended to render top managers more capable of discriminating among those competencies that are important to include in the model and those that are not. However, this approach, in effect, trades the strategic relevance of competencies for a more task- or work-relevant focus (Lievens & Sanchez, 2007). Although this is likely to improve the psychometric quality of the competency model, this is not the primary goal of competency modeling (Sanchez & Levine, 2009). Our results suggest that rather than including more task-related information to make competencies more job-relevant, the perspective and information top managers have regarding the organization's strategy may be what allows them to add value to the competency model. If competencies are developed using this information rather than detailed task-related information, employees at lower levels are likely to learn over time to be more strategic in their cognition (or the way they interpret their jobs) provided there is a mechanism in place linking the competency model to their performance. Thus, making competency models more task- or work-relevant may hinder their potential to influence behavior along strategic lines. Alternatively, approaches such as FOR training might be more effective in helping employees understand the inference leap between the model and their behavior (Lievens & Sanchez, 2007).

Third, and relatedly, prior research has proposed, and our results reinforce the view, that there may be reason for organizations to use high-performing SMEs in the competency modeling development process (Campion et al., 2011; Sanchez & Levine, 2009). Although previous job analysis research has tended to show that a link does not often exist between individuals' job performance and their job analysis ratings (Conley & Sackett, 1987; Wexley & Silverman, 1978; but see Borman, Dorsey, & Ackerman, 1992, for an exception), that may be because traditional job analysis focuses on the job as it exists and not necessarily the competencies needed to support the strategic direction in the future that high performers may better recognize. Also, there are noteworthy differences in the types of ratings made between job analysis and competency modeling (Lievens et al., 2004; Morgeson et al., 2004). For example, rating whether one performs a task or whether a specific type of knowledge or skill is important is far different from the exercise of describing the importance of behavioral themes that comprise one's enacted role within the organization (Lievens et al., 2010), which high performers may better recognize.

### 6.3 | Limitations

Some of the potential limitations are methodological. First, one limitation was the size of our sample. There were too few to compare across time periods with any statistical power ( $n = 45$ ), and they had changed jobs. As such, we had to create a measure of change at the job grade level rather than directly comparing perceived change at the two points in time from the same people. Another potential methodological limitation was the small effect sizes of some of the relationships observed. Nevertheless, they provide preliminary evidence that

may benefit future research in this area. Future studies might also find larger effect sizes with improved research designs.

Yet another methodological limitation is that a few of the hypotheses might on the surface seem too methodological (e.g., high inter-rater reliability and agreement) or perhaps even obvious. However, psychometric evidence of accuracy is critical and cannot be assumed in job analysis related research (Morgeson & Campion, 1997). Also, that employees who understand the strategic direction were found to receive higher performance ratings is not obvious because there is not any prior direct evidence of this finding in the literature and there are many reasons why it may not be the case (e.g., performance is often influenced by other factors than just the competencies, employees may not understand the strategic direction as encompassed by the competencies in the same manner as senior management yet still have high performance, and competency models may not actually be effective in some organizations).

There were also generalizability limitations to the study. Although this study was conducted in an organization much like many others where the primary goal of implementing and updating the competency model was to actively infuse the organization's strategy into employee behavior, the way in which this was achieved is likely to vary across organizations. For example, in this organization the competency model is linked to the hiring system, performance appraisal, and promotion, but not compensation because legislation sets the pay level for government jobs. This would not be the same for other organizations. Further, the nature of the strategy of this organization and the recent changes in strategy are certainly unique to this organization, and thus the impact on the competency model may be greater or lesser than other organizations. In addition, the organization used in this study is all professional employees that rotate between jobs, thus there this more communication and involvement between top management and employees than in traditional organizations. For these reasons it is important that these findings be replicated in other organizational contexts in order to ensure their generalizability.

Another unique feature is the number of competencies in this organization's model is quite extensive. This may not be the case in other organizations. For example, some organizations use only a small number of competencies representing only the most vital and strategically relevant behavioral themes they expect employees to adopt (Sanchez & Levine, 2009). On the other hand, it is also common practice to develop models containing both a set of "fundamental" or "foundational" competencies as well as a set of "technical" competencies (Campion et al., 2011). Thus, it is unclear how our findings might extend to other contexts. However, this does present interesting avenues for future research. For example, we might expect that with a smaller set of competencies employees might recognize the relationship between enacting competency-based behavior and job performance sooner because it is easier to focus on a smaller number of behavioral themes. Conversely, focusing only on a small set of competencies might not meaningfully impact performance. There may be a "critical mass" of competencies necessary to have an impact.

Finally, we were not able to test the underlying assumption that competency models will lead to greater alignment over time between

employee behavior and the business strategy. This is expected partly because non-aligned people will leave or not move up, and partly because learning would occur over time both due to management emphasizing the competencies during performance appraisal and due to vicarious learning by observing that those who understand the competencies get rewarded. However, this is another fruitful area for future research.

## ENDNOTES

<sup>1</sup> Issues of sample size and design are addressed in detail in Discussion section.

<sup>2</sup> We realize that many organizations may not use competency models containing such an extensive array of competencies. We consider this in Limitations section.

## ORCID

Michael A. Campion  <https://orcid.org/0000-0001-7066-2788>

## REFERENCES

- Ancona, D., & Chong, C. L. (1996). Entrainment: Pace, cycle, and rhythm in organizational behavior. *Research in Organizational Behavior*, 18, 251–284.
- Ashford, S. J., & Cummings, L. L. (1983). Feedback as an individual resource: Personal strategies of creating information. *Organizational Behavior and Human Performance*, 32, 370–398.
- Bartram, D. (2005). The great eat competencies: A criterion-centric approach to validation. *Journal of Applied Psychology*, 90, 1185–1203.
- Bernardin, H. J., & Beatty, R. W. (1984). *Performance appraisal: Assessing human behavior at work*. Boston, MA: Kent Publishing.
- Bettis, R. A., & Prahalad, C. K. (1995). The dominant logic: Retrospective and extension. *Strategic Management Journal*, 16, 5–14.
- Borman, W. C., Dorsey, D., & Ackerman, L. (1992). Time-spent responses as time allocation strategies: Relations with sales performance in a stockbroker sample. *Personnel Psychology*, 45, 763–777.
- Brannick, M. T., Levine, E. L., & Morgeson, F. P. (2007). *Job and work analysis: Methods, research, and applications in human resource management* (2nd ed.). Los Angeles, CA: Sage.
- Brymer, R. A., Hitt, M. A., & Schijven, M. (2011). Cognition and human capital: The dynamic interrelationship between knowledge and behavior. In A. Burton-Jones & J. C. Spender (Eds.), *The oxford handbook of human capital* (pp. 120–144). Oxford, England: Oxford University Press.
- Campion, M. A., Fink, A. A., Ruggeberg, B. J., Carr, L., Phillips, G. M., & Odman, R. B. (2011). Doing competencies well: Best practices in competency modeling. *Personnel Psychology*, 64, 225–262.
- Chandler, A. D., Jr. (1962). *Strategy and structure: Chapters in the history of the industrial enterprise*. Cambridge, MA: MIT Press.
- Conley, P. R., & Sackett, P. R. (1987). Effects of using high- versus low-performing job incumbents as sources of job-analysis information. *Journal of Applied Psychology*, 72, 434–437.
- Cook, S. D. N., & Brown, J. S. (1999). Bridging epistemologies: The generative dance between organizational knowledge and organizational knowing. *Organization Science*, 10, 381–400.
- de Sá Sousa, H. P., & do Prado Leite, J. C. S. (2017). Toward an organizational alignment modeling language: The human resource competency perspective. In *2017 IEEE 19th conference on business informatics (CBI)* (Vol. 1, pp. 277–286). IEEE.
- Diaz Fernandez, M., Lopez Cabrales, A., & Valle, R. (2014). A contingent approach to the role of human capital and competencies on firm strategy. *BRQ Business Research Quarterly*, 17, 205–222.
- Diaz Fernandez, M., Lopez Cabrales, A. Y., & Valle Cabrera, R. (2013). In search of strategic competencies: The design of a proper compensation system. *The International Journal of Human Resource Management*, 24(3), 643–666.
- Dominick, P. G. (2009). Forced rankings: Pros, cons, and practices. In J. W. Smither & M. London (Eds.), *The professional practice series. Performance management: Putting research into action* (pp. 411–443). San Francisco, CA: Jossey-Bass.
- Fink, A. A. (2007). *Competency modeling at Microsoft*. Doing competencies well, Symposium presented at Annual Conference of the Society for Industrial and Organizational Psychology, New York, NY.
- Gavetti, G. (2005). Cognition and hierarchy: Rethinking the microfoundations of capabilities' development. *Organization Science*, 16, 599–617.
- Goldman, E., & Scott, A. R. (2016). Competency models for assessing strategic thinking. *Journal of Strategy and Management*, 9(3), 258–280.
- Grant, R. M. (1996). Toward a knowledge-based theory of the firm. *Strategic Management Journal*, 17, 109–122.
- Green, P. C. (1999). *Building robust competencies: Linking human resource systems to organizational strategies*. Los Angeles, CA: Jossey-Bass.
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis*. New York, NY: Guilford Press.
- Heneman, R. L. (1986). The relationship between supervisory ratings and results-oriented measures of performance: A meta-analysis. *Personnel Psychology*, 39, 811–826.
- Ilgen, D. R., Fisher, C. D., & Taylor, M. S. (1979). Consequences of individual feedback on behavior in organizations. *Journal of Applied Psychology*, 64, 349–371.
- Ireland, R. D., Hitt, M. A., Bettis, R. A., & de Porras, D. A. (1987). Strategy formulation processes: Differences in perceptions of strength and weaknesses indicators and environmental uncertainty by managerial level. *Strategic Management Journal*, 8, 469–485.
- Kor, Y. Y., & Mesko, A. (2013). Dynamic managerial capabilities: Configuration and orchestration of top executives' capabilities and the firm's dominant logic. *Strategic Management Journal*, 34, 233–244.
- LeBreton, J. M., & Senter, J. L. (2008). Answers to 20 questions about interrater reliability and interrater agreement. *Organizational Research Methods*, 11, 815–852.
- Levenson, A. (2018). Using workforce analytics to improve strategy execution. *Human Resource Management*, 57(3), 685–700.
- Lievens, F., & Sanchez, J. I. (2007). Can training improve the quality of inferences made by raters in competency modeling? A quasi-experiment. *Journal of Applied Psychology*, 92, 812–819.
- Lievens, F., Sanchez, J. I., Bartram, D., & Brown, A. (2010). Lack of consensus among competency ratings of the same occupation: Noise or substance? *Journal of Applied Psychology*, 95, 562–571.
- Lievens, F., Sanchez, J. I., & De Corte, W. (2004). Easing the inferential leap in competency modeling: The effects of task related information and subject matter expertise. *Personnel Psychology*, 57, 881–904.
- Lucia, A., & Lepsinger, R. (1999). *The art and science of competency models: Pinpointing critical success factors in organizations*. San Francisco, CA: Jossey-Bass/Pfeiffer.
- MacKinnon, D. P., Fairchild, A. J., & Fritz, M. S. (2007). Mediation analysis. *Annual Review of Psychology*, 58, 593–614.
- March, J. G., & Simon, H. A. (1958). *Organizations*. Oxford, England: Wiley.
- McCarthy, I. P., Lawrence, T. B., Wixted, B., & Gordon, B. R. (2010). A multidimensional conceptualization of environmental velocity. *Academy of Management Review*, 35, 604–626.
- Menke, C. (2018). Unravelling entrepreneurial competencies and their relation to entrepreneurial intent. *International Journal of Entrepreneurial Venturing*, 10(6), 663–687.
- Mintzberg, H. (1978). Patterns in strategy formulation. *Management Science*, 24, 934–948.

- Mintzberg, H. (1979). *The structuring of organizations*. Englewood Cliffs, NJ: Prentice-Hall.
- Mirabile, R. J. (1997). Everything you wanted to know about competency modeling. *Training and Development*, 51, 73–77.
- Morgeson, F. P., & Campion, M. A. (1997). Social and cognitive sources of potential inaccuracy in job analysis. *Journal of Applied Psychology*, 82, 627–655.
- Morgeson, F. P., Delaney-Klinger, K., Mayfield, M. S., Ferrara, P., & Campion, M. A. (2004). Self-presentation processes in job analysis: A field experiment investigating inflation in abilities, tasks, and competencies. *Journal of Applied Psychology*, 89, 674–686.
- Murphy, K. R., & Cleveland, J. N. (1995). *Understanding performance appraisal: Social, organizational, and goal-based perspectives*. Thousand Oaks, CA: Sage.
- Nonaka, I., & Takeuchi, H. (1995). *The knowledge-creating company*. New York, NY: Oxford University Press.
- Ocasio, W. (1997). Towards an attention-based view of the firm. *Strategic Management Journal*, 18, 187–206.
- Orlikowski, W. J. (2002). Knowing in practice: Enacting a collective capability in distributed organizing. *Organization Science*, 13, 249–273.
- Pearlman, K. (1997). Competencies: Issues in their application. In R. C. Page (Ed.), *Competency models: What are they and do they work?* St. Louis, MO: Practitioner forum conducted at the Annual Conference of the Society for Industrial and Organizational Psychology.
- Perez-Nordtvedt, L., Payne, G. T., Short, J. C., & Kedia, B. L. (2008). An entrainment-based model of temporal organizational fit, misfit, and performance. *Organization Science*, 19, 785–801.
- Ployhart, R. E. (2012). Personnel selection: Ensuring sustainable organizational effectiveness through the acquisition of human capital. In S. W. J. Kozlowski (Ed.), *The oxford handbook of organizational psychology* (pp. 221–246). Oxford, England: Oxford University Press.
- Ployhart, R. E., Hale, D., & Campion, M. C. (2014). Micro processes in organizations. In B. Schneider & K. M. Barbera (Eds.), *The Oxford handbook of organizational climate and culture*. Oxford, England: Oxford University Press.
- Ployhart, R. E., & Schneider, B. (2012). The organizational context of personnel selection. In N. Schmitt (Ed.), *The Oxford handbook of assessment and selection* (pp. 48–67). Oxford, England: Oxford University Press.
- Porter, M. (1996). What is strategy? *Harvard Business Review*, 74(6), 61–72.
- Porter, M. E. (1991). Towards a dynamic theory of strategy. *Strategic Management Journal*, 12, 95–117.
- Prahalad, C. K., & Bettis, R. A. (1986). The dominant logic: A new linkage between diversity and performance. *Strategic Management Journal*, 7, 485–501.
- Preacher, K. J., & Hayes, A. F. (2008). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavioral Research Methods, Instruments, and Computers*, 36, 717–731.
- Profirou, A. G., & Hurdubei, R. (2018). Universality of behavioural competency models. *Economics, Management and Financial Markets*, 13(3), 113–119.
- Rodriguez, D., Patel, R., Bright, A., Gregory, D., & Gowing, M. K. (2002). Developing competency models to promote integrated human resource practices. *Human Resource Management*, 41, 309–324.
- Rumelt, R. P., Schendel, D. E., & Teece, D. J. (1994). Fundamental issues in strategy. In R. P. Rumelt, D. E. Schendel, & D. J. Teece (Eds.), *Fundamental issues in strategy: A research agenda* (pp. 9–53). Boston, MA: Harvard Press.
- Sanchez, J., & Levine, E. L. (2009). What is (or should be) the difference between competency modeling and traditional job analysis? *Human Resource Management Review*, 19, 53–65.
- Schippmann, J. S., Ash, R. A., Battista, M., Carr, L., Eyde, L. D., Hesketh, B., & Sanchez, J. I. (2000). The practice of competency modeling. *Personnel Psychology*, 53, 703–740.
- Schuler, R. S., & Jackson, S. E. (1987). Linking competitive strategies with human resource management practices. *Academy of Management Perspectives*, 1(3), 207–219.
- Shrout, P. E., & Fleiss, J. L. (1979). Intraclass correlations: Uses in assessing rater reliability. *Psychological Bulletin*, 86, 420–428.
- Simon, H. (1997). *Administrative behavior: A study of decision-making processes in administrative organizations* (4th ed.). New York, NY: Free Press.
- Sliter, K. A. (2015). Assessing 21st century skills: Competency modeling to the rescue. *Industrial and Organizational Psychology*, 8(2), 284–289.
- Spence, L. M., & Spence, S. M. (1993). *Competence at work: Models for superior performance*. New York, NY: Wiley.
- Spender, J. C. (1996). Making knowledge the basis of a dynamic theory of the firm. *Strategic Management Journal*, 17, 45–62.
- Stone, T. H., Webster, B. D., & Schoonover, S. (2013). What do we know about competency modeling? *International Journal of Selection and Assessment*, 21(3), 334–338.
- Tett, R. P., Guterman, H. A., Bleier, A., & Murphy, P. J. (2000). Development and validation of a “hyperdimensional” taxonomy of managerial competence. *Human Performance*, 13, 205–251.
- Thompson, J. D. (1967). *Organizations in action: Social science bases of administrative theory*. New York, NY: McGraw-Hill.
- von Krogh, G., & Roos, J. (1996). A tale of the unfinished. *Strategic Management Journal*, 17, 729–737.
- Weick, K. E. (1979). *The social psychology of organizing* (2nd ed.). Reading, MA: Addison-Wesley.
- Wexley, K. N., & Silverman, S. B. (1978). An examination of differences between managerial effectiveness and response patterns on a structured job analysis questionnaire. *Journal of Applied Psychology*, 63, 646–649.
- Woehr, D. J. (1994). Understanding frame-of-reference training: The impact of training on the recall of performance information. *Journal of Applied Psychology*, 79, 525–534.

#### AUTHOR BIOGRAPHIES

**Michael C. Campion** is currently an Assistant Professor in Vackar College of Business and Entrepreneurship at the University of Texas Rio Grande Valley and is a consultant at Campion Consulting Services. His research focuses on staffing, the use of Big Data, machine learning, and text analytics in organizations, and strategic human resource management. He has a large number of publications in a wide range of journals and regularly serves as a reviewer.

**Donald J. Schepker** is an Assistant Professor of Management in the Darla Moore School of Business at the University of South Carolina. His research is primarily focused on strategic leadership and corporate governance, including antecedents and consequences of executive succession, board-management dynamics, stakeholder responses to managerial decisions, and the impacts of board decision-making. He also serves as the Research Director for the Center for Executive Succession where he works with boards of directors, CEOs, and Chief Human Resource Officers to identify and examine best practices for executive succession planning.

**Michael A. Campion** is the Krannert Chair Professor of Management at Purdue University. He is an Industrial and Organizational Psychologist. His research spans the range of HR topics, such as

interviewing, selection, teams, work design, job analysis, testing, training, turnover, promotion, and motivation. He has over 140 articles in scientific and professional journals and is among the 10 most published authors in the top journals and second most cited author in HRM textbooks. He is also past editor of *Personnel Psychology* and past president of Society for Industrial and Organizational Psychology. He has conducted about 1,200 consulting projects for 170 organizations over the past 40 years.

**Juan I. Sanchez** is Professor and Knight-Ridder Byron Harless Eminent Chair of Management at Florida International University in Miami, FL, where he also serves as Chair of the Global Leadership and Management Department. A former member of the Academy of Management's Human Resource Division Executive Committee, he is a Fellow of the Society for Industrial and Organizational Psychology and the American Psychological Association. His award-winning research, which includes approximately 100 articles published in refereed journals, places him in the top

.5% of the most cited authors in I/O Psychology textbooks in a recent survey. He is a former Public Member of the U.S. State Department's Board of Examiners of the Foreign Service and a former Special Government Employee of the U.S. Social Security Administration's Occupational Information Advisory Panel. He has served as Consulting and Associate Editor in the editorial boards of top journals, a five-time National Academy of Sciences panelist, an expert witness in cases involving staffing disputes, and a consultant to organizations in multiple countries.

**How to cite this article:** Campion MC, Schepker DJ, Campion MA, Sanchez JI. Competency modeling: A theoretical and empirical examination of the strategy dissemination process. *Hum Resour Manage.* 2020;59:291–306. <https://doi.org/10.1002/hrm.21994>