What Do We Know About Competency Modeling?

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While use of competency modeling (CM) has grown considerably, evaluation of it has been sparse. ‘Although today there is a significant amount and range of practice, there is sadly, little research or formal description of practice . . .’ (Schippmann, J. S. (2010). In J. Scott & D. Reynolds (Eds.), Handbook of Workplace Assessment (p. 215). San Francisco, CA: John Wiley). CM literature is reviewed with the goal of shedding light on the prevalence, uses and effectiveness of CM. CM adoption, use, and effectiveness were examined via surveys and expert interviews. Results indicate extensive use of CM in corporate talent management systems. Our survey and review highlight the need for further examination of CM, its uses and implementation challenges.

1. Introduction

At the onset of the 21st century, industrial organizational (I/O) psychologists began to question the methodological rigor of competency modeling (CM), specifically compared to traditional job analysis (TJA). ‘By the mid-1990’s, practice and application had outstripped research and reporting by such a huge margin that nobody had a clear sense of what was going on’ (Schippmann, 2010, p. 204). This led to a task force consisting of members of the Professional Practice Committee and Scientific Affairs Committee of the Society of Industrial Organizational Psychology (SIOP). This group’s work resulted in a set of standards for CM practice and a 10-dimension level of rigor scale (Schippmann et al., 2000). Following interviews with 37 academic and practitioner subject matter experts, the task force concluded TJA is more rigorous in terms of components such as choosing task descriptor content, determining reliability of judgments, and detail of content. The major CM strength was its linkage to business goals and long-term strategies. Additionally, CM serves as a broad tool for organizational development by aligning human resource (HR) systems so that employees are hired, trained, evaluated, compensated, and promoted based on the same attributes (Campion et al., 2011).

Despite the reported growth of CM, controversy remains regarding the definition of competency and the methodology to develop a competency model (Campion et al., 2011; Sanchez & Levine, 2009). Although no unifying formal definition exists among scholars, most definitions state or imply that ‘competencies’ are behaviors, skills, and/or knowledge that align with organizational strategies and are necessary for successful performance (Campion et al., 2011).

Adding to the uncertainty regarding a formal definition and methodology to develop a competency model is the fact that CMs can be utilized as stand-alone models or can form the basis of comprehensive Talent Management (TM) systems. TM refers to a comprehensive method to hire talented individuals and ensure proper performance throughout their tenure with the company. Indeed, TM systems are likely the most common use of competencies. Indirect evidence regarding the extent to which competency models are used in organizations comes from two competency modeling subject matter experts, Jeff Schippmann and John Scott, and an internet search of TM companies. J.S. Schippmann (personal communications, February 10, 2012) estimated that 70–80% of Fortune 500 companies use some form of TM system and virtually all such systems rely on competencies for defining and measuring work and performance. In a recent interview John Scott, Chief Executive Officer (CEO) of APTmetrics, an HR management company, stated:
A recent review of clients of 10 prominent TM firms echoed the CEO’s comments (‘PeopleFluent,’ 2012). For example, competencies are the core of PeopleFluent’s TM systems, used by nearly 80% of Fortune 100 companies. However, little is known about how organizations use CM and its effectiveness.

2. Previous user data of competency modeling

Schippmann (2010) recently recognized a significant problem in the CM literature stating, ‘Although today there is a significant amount and range of practice, there is sadly, little research or formal description of practice, …’ (p. 215). One consequence of this shortcoming is statements regarding CM practice that are not supported by user survey data. For example, several sources contend competency models are used actively to align HR systems (e.g., Green, 1999; Lawler, 1994; Lucia & Lepsinger, 1999), but offer no supporting data. In addition to the dearth of knowledge regarding CM users, available data are over a decade old. Indeed, two surveys, the Mercer survey (Rathbar-Daniels, Erickson, & Dalik, 2001) and an unpublished survey (Schoonover, Schoonover, Nemerov, & Ehly, 2000), are among the more recent surveys presenting actual user data of CM use and effectiveness.

Both of these surveys attempted to better understand why competencies are used, their effectiveness, and the barriers to effective CM implementation. Of the 130 HR executives of large firms interviewed in the Mercer survey, (Rathbar-Daniels et al., 2001) 75% used CM for 2 years and 25% were not using CM or used it for less than 2 years. In the Schoonover et al. (2000) study conducted with four consulting firms, approximately one-third of the 300 internet responders actively used CM and were similar in size and industries to the Mercer sample. This survey categorized CM user’s expertise resulting in one-third ‘sophisticated’, that is, multiple CM applications over a period of years. A brief summary of the two surveys is described.

2.1. Coverage of CM

Competencies were used by just over half of employees among competency users in the Mercer and Schoonover samples. In the Mercer sample, 23% use functional competencies such as finance and marketing and 21% use both functional and organizational competencies such as ethics and integrity. While the Mercer study found competency models covered 80% of managerial and supervisory employees, and 50% of professionals, the Schoonover survey found less with just over one-third of professionals, middle managers and first-line supervisors being covered by CM and only a quarter of managers.

2.2. Reasons for adopting competencies

The two surveys discovered organizations adopt CM for similar reasons (listed in decreasing order of frequency): to enhance performance, to integrate HR processes, to align behavior with corporate values, selection, development, and career pathing.

2.3. Effectiveness of competency modeling

The Mercer and Schoonover et al. (2000) surveys addressed effectiveness of competencies for various HR applications. In the Mercer survey, Rathbar-Daniels et al. (2001) state, ‘The great majority reported a lack of formal measurement of the business impact of competency-based HR applications’ (p. 73). Several quotes suggest satisfaction with CM to strengthen HR processes, ‘sharing a common purpose’ and facilitating the same competency language regarding performance. Additionally, units with high competency ratings were more productive and competency-based selection led to lower turnover and higher performance. Similarly, Schoonover et al. (2000) found only half of those implementing CM conducted any measurement of effectiveness and little consistency of practice. Approaches to measurement of effectiveness include 32% used performance ratings, 31% used employee satisfaction, 29% used competency ratings, 27% used management and employee perceptions, 26% used turnover and 15% used return on investment (ROI).

The Schoonover et al. (2000) study assessed the effectiveness of nine competency goals and nine HR applications using a five-point scale of 1 = very ineffective to 5 = very effective. Aligning behavior with core values was rated highest, 3.52, followed by enhancing performance expectations, 3.32, communicating generic leadership skills, 3.26 and developing functional areas lowest, 2.88. Note that none were rated as effective. The most effective (percent rating ‘very effective’ or ‘effective’) CM application of an HR function was selection, 53%, consistent with the Mercer findings. Ratings of other HR applications were performance management 50%, training 42%, job descriptions 38%, development planning 36%, career pathing 31%, succession planning 30%, strategic HR planning 29% and compensation 19%.

As with ratings of effectiveness of competency focus, the Schoonover study reported a significant relationship...
between level of sophistication and performance management, training, and selection. For all HR applications, sophisticated users’ effectiveness ratings were highest while beginner and experienced users were lower and relatively similar to one another.

Overall, 30% of competency users in the Schoonover survey were satisfied or very satisfied with their competency applications and their effectiveness. However, Schoonover et al. (2000) state, ‘one of the most interesting and potentially disturbing findings of the study’ (p. 14) was that 37% of those using CM were dissatisfied or very dissatisfied with their competency applications. They suggest the level of expertise may explain this difference as effectiveness of CM was ‘very significantly correlated with level of user expertise.’ And they note, ‘The average effectiveness gap between beginner and experienced user was .2, while the average gap between experienced and sophisticated users was .7’ (p. 9). Recall that only approximately one-third of the sample was very experienced or sophisticated CM users. Schoonover et al. (2000) conclude these findings suggest that the ‘payoff’ for use of competencies requires persistence over time.

2.4. What are the barriers to success of CM?

The surveys demonstrate several common themes in regards to barriers of success of CM. Notably, lack of top management ‘buy-in’ and CM perceived as an ‘HR thing’ requiring too many financial and human resources.

The two surveys are dated and are relatively small samples. However, our recently conducted survey, in conjunction with the Mercer and unpublished Schoonover surveys, represent a small step toward providing data necessary for a ‘formal description of practice’ (Schippmann, 1999) and challenges to successful CM implementation. Perhaps more importantly, the three surveys, taken together, highlight the need for further examination and analysis of how CMs are currently utilized in organizations and their effectiveness.

3. 2011 competency modeling survey

Our survey is web-based with some phone interviews. We used a convenience, snowball sampling method contacting experienced U.S. and Canadian HR and I/O psychology professionals acquainted with the first author. Of the 48 respondents, 69% use CM and half are ‘sophisticated,’ meaning competencies are used for three or more HR applications and have been used for 5 or more years. Responses were only included in our analyses if the organization uses competency modeling. As a result, our sample consisted of 33 usable responses. For comparative purposes, the results of this survey are outlined in a similar manner to the Mercer and Schoonover surveys. Findings of the two previous surveys, as well as our 2011 survey are summarized in Table 1.

Our survey examined questions similar to the Mercer and Schoonover surveys in an attempt to gain clearer insight as to how CM use and effectiveness has changed over the past decade. Those surveyed provided self-report answers to questions related to issues such as how long have competencies been used, for which HR functions are competencies used, were consulting firms used for CM implementation, professional HR certifications and affiliations, organization size, and effectiveness of the CM system. Additionally, our survey contained a qualitative component in that we analyzed open-ended responses to questions such as why competencies are used and what are barriers to effective implementation of competencies? The use of CM versus TJA was also examined to better understand their relationship.

3.1. Coverage of CM

Although the Mercer and Schoonover surveys examined use of CM, the 2011 survey asked a related but different question, ‘Are jobs for which CM is conducted different from those conducted using TJA?’ Half of the CM users said there was no difference while others identified

Table 1. Summary of surveys

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<tr>
<td>Number of respondents utilizing CMs</td>
<td>75% used CM for at least 2 years</td>
<td>33% used CM. 65% said likely to implement</td>
<td>69% used CM</td>
</tr>
<tr>
<td>How is CM applied to individuals?</td>
<td>56% covers all employees in the organization</td>
<td>51% covers all employees in the organization</td>
<td>N/A</td>
</tr>
<tr>
<td>Reasons for adoption</td>
<td>Integrate HR processes, align organizational goals, reinforce behaviors, facilitate change</td>
<td>Enhance performance, integrate HR process, align behavior with organizational goals</td>
<td>Raise performance, align HR practices with organizational strategy</td>
</tr>
<tr>
<td>Measure of effectiveness?</td>
<td>Satisfied with CM but no formal way to assess effectiveness</td>
<td>50% measured effectiveness. No consistent method of measurement</td>
<td>Mean rating (0–100) 75.2 (16.1 SD)</td>
</tr>
<tr>
<td>Barriers to implementation</td>
<td>Top management support, lack of resources</td>
<td>Top management support, lack of resources</td>
<td>Competencies not fully explained and understood by employees</td>
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CM = competency modeling; HR = human resource.
3.2. Effectiveness of competency modeling

Respondents were asked how effective their organization's competency modeling system has been by answering on a scale from 0 to 100. Online survey respondents’ mean rating of overall effectiveness of their CM effort was 75.2 (0–100 scale) (16.1 SD). Table 2 presents the correlations among variables of interest. Consistent with Schoonover et al. (2000), we found a positive and statistically significant relationship between CM user-rated effectiveness and years the competency modeling system has been implemented ($r = .45; p < .05$). One somewhat surprising finding from the 2011 survey is that less than 30% of CM users employed a consulting firm when initiating the CM process and those who did were large firms. Interestingly, CM effectiveness and use of a consulting firm was negatively correlated but non-significant ($-.20$) while organization size and use of a consulting firm was positively correlated and significant at ($.51; p < .05$).

3.3. What are the barriers to success of CM?

Although not presented in Table 2, our survey included a qualitative element in that we asked respondents to indicate barriers to the success of CM. Consistent with surveys conducted over a decade ago, the 2011 survey discovered top management buy in was consistently listed as the biggest barrier to success of CM. As a follow-up to our survey, several major CM vendors, Development Dimensions International (DDI), Personnel Decisions Research Institute (PDRI), APTMetrics, Hogan Assessments and Lominger, were asked their views of major CM issues and challenges. The following represent the major issues reported.

3.4. Implementation

There was a high degree of agreement that some organizations develop competency models but do not know how to implement them. Two representative responses are, ‘A common request we get is how to roll out the competency models once they are built’ and ‘It really comes down to how organizations implement the models.’ Another observed, ‘Implementation is less of an issue with selection than performance management and development as they affect jobs and careers more.’

3.5. Lack of integration with other HR/talent management systems

Although Campion et al. (2011) contend integration of HR systems is a virtue of CM, respondents noted challenges regarding linking different applications especially when different models are developed for different HR functions.

3.6. Lack of appropriate level of specificity

On the one hand, some competencies are too broad and cannot be measured or communicated while others are overly detailed and overwhelming for users. A large 2011 respondent revised and simplified competencies to gain employee acceptance.

3.7. Leadership changes create CM instability

Strategically, top management uses CM to focus and direct the organization in specific directions (Campion...
et al., 2011), ‘CM changes as leaders change’. However, experts observed this may lead to instability in basic applications such as selection.

3.8. Competencies are not validated

Some organizations adopt competencies, but fail to examine how they predict job behaviors, particularly when CM libraries are used.

4. Conclusion

The extant CM literature is primarily prescriptive advocating adoption of CM. A number of I/O psychology articles question the methodological rigor of the CM process while also arguing traditional job analysis methods would benefit CM. This review suggests the need for more current information regarding CM users, effectiveness and challenges of CM adoptions.

Adoption and use of CM merits further research for at least three reasons. First, although published empirical data regarding CM adoption are lacking, informal evidence suggests growing adoptions by private and public sector organizations of all sizes. Favorable and prescriptive CM information proffered in books, articles and influential organizations such as the Society for Human Resource Management (SHRM), WorldatWork and the American Society of Training and Development (ASTD) encourage adoption.

Second, as a major tool of work analysis that may be replacing TJA in some contexts, CM merits critical analysis. Extensive adoption of TM systems, our survey and CM vendor interviews suggest this may be occurring. Specifically, the consultant panel stated the vast majority of their business is CM not TJA. However, little is known about the effect of replacing TJA with CM. Is the CM process less reliable and more open to bias than TJA? The Schippmann et al. (2000) panel felt CM was better for training and development and that TJA should be used for selection, performance appraisal and related HR applications because TJA would better withstand legal challenges. Campion et al. (2011) argue that legal defensibility of HR systems is a key reason many large organizations conduct TJA. Sanchez and Levine (2009) provide excellent suggestions for useful cross-fertilization of CM and TJA. Future research should examine the extent to which such cross-fertilization is occurring and is successful.

The third reason for study of CM users is the lack of evidence of CM effectiveness. The Schoonover et al. (2000) finding of dissatisfaction among over one-third of CM users and the 2011 survey’s 75.2% effectiveness rating suggests CM may have some implementation issues. Future research should use more objective measures of effectiveness rather than the mainly subjective ratings used in existing research. Additionally, responses of major CM vendors suggest several sources of challenge to effectiveness of CM. Of the challenges mentioned, the lack of validation and appropriate level of specificity issues are examples of potential gains from use of TJA methods suggested by Sanchez and Levine (2009) while others are management issues. In the rush to speed application, CM has not received the critical review its widespread adoption merits.

References