BOOMING PRACTICE OR BUST? THE USE AND DEVELOPMENT OF
COMPETENCY MODELS IN ORGANIZATIONS

by

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ABSTRACT

While the use of competency models in organizations has been increasing in recent years, our understanding of how organizations are developing and using competency models is limited. This study sought to provide a better understanding of how organizations develop, present, and implement competency models. A survey was created assessing the best practices of competency modeling as set by Campion et al. (2011). Participants were approximately 328 human resource personnel and consultants that had experience with multiple competency models. Results indicated that some best practices, such as documenting the process, were being followed more closely than others. In addition, results showed that educational background and professional affiliations did not predict following the best practices more closely. This study helps to close the gap between practice and research and assists practitioners in gaining a better understanding about how competency models are being used and developed in various organizations.

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CHAPTER I

REVIEW OF THE LITERATURE

Introduction

While the use of competency models has become more ubiquitous in organizations, the use of competency modeling in organizations has also been recently scrutinized (Reed, Bullis, Collins, & Paparone, 2004; Shippmann et al., 2000). Critiques revolve around the idea that competency models lack developmental rigor and appropriate documentation (Shippmann et al., 2000). Despite these claims, organizations seem to be embracing the idea of competency modeling. In 2000, Shippmann et al. stated that 80% of businesses were using competency modeling. Almost fifteen years later, a report done by CEB found an expected 27% increase in spending on competency models in 2014 (Graber, 2015). This large amount of expected spending on competency models seems to create the idea that despite the debate around rigor, organizations are still embracing them.

While authors have discussed how competency models *should be* developed, implemented, and used, research into examining *how* competency models are actually being used within organizations is lacking. This missing link is critical to the discussion of whether or not competency modeling lacks rigor. Without data regarding the implementation and development of competency models, it is hard to discuss the degree of rigor employed when organizations are developing and using them. The purpose of this study is to close the gap between research and practice and to develop a better

understanding of how competency models are being developed, implemented and used within organizations.

Review of Competency Modeling

Competency models "refer to collections of knowledge, skills, abilities, and other characteristics (KSAOs) that are needed for effective performance for the jobs in question" (Campion et al., 2011, p.226). McClelland (1973) was the first to coin the use of competencies and suggested measuring competence for performance outcomes rather than intelligence (McClelland, 1973). Taking McClelland's research a step further, Prahalad and Hamel (1990) expanded the idea of competencies to include "core competencies", which are characteristics that are shared at the organization level with all employees. Core competencies are often found in today's organizations, where organizations identify competencies that are expected of all employees, as well as a separate set of competencies that are specific to different jobs or positions (Sanchez & Levine, 2009). Though the writing and research on competencies dates back to the 1970's, the current state and use of competency modeling in organizations still seems to be under-studied.

Though research on the application of competency modeling has not been thoroughly documented, it is well known that the type of organizations using competencies is not limited to only one industry. For example, Fuentes, Willmuth & Yarrow (2005) found that approximately 50% or more of Fortune 500 companies are currently using competency modeling. Fallesen et al. (2005) explained further that the federal government and military use competencies as a way to measure performance.

Competency models seem to be an "attractive" way to get an organization's and executives' attention when trying to evaluate performance, assess training, or implement organizational change (Schmieder & Frame, 2007). Stevens (2013) stated that competency modeling usually grabs an executive's attention by "deriving high-performance behaviors from organizational strategies and goals, often using the organization's own language to generate buy-in and enhance ease of use" (p. 87). This link between business strategies and goals, as well as allowing organization's to describe behaviors in non-rigid ways (Sliter, 2015), are often seen as one of the benefits of competency modeling as compared to traditional job analysis (Sanchez & Levine, 2009).

Competency Modeling vs. Traditional Job Analysis

Campion et al. (2011) described competency modeling as the "Trojan horse for job analysis" (p. 226). Competency modeling has received better press than traditional job analysis within organizations. Often, job analysis has been portrayed as a boring task and for many organizations, it can seem to be one of many mundane human resources requirements. Competency modeling on the other hand has been known to grab the attention of executives and is touted as a preferred way to explain employee behavior (Campion et al., 2011). Though competency modeling has received more hype than job analysis, there are distinct differences between the two. Sanchez and Levine (2009) explain the differences between competency modeling and traditional job analysis further, though they advise that these differences may just exist in their definition and not in the way in which practice sees the two constructs.

The biggest difference often noted between job analysis and competency modeling is the linking of an organization's objectives and goals to the job or position (Shippmann et al., 2000). Shippmann et al. (2000) argued that competency modeling is most rigorous in this aspect compared to traditional job analysis. This is likely because competencies generally take into consideration the organization's long-range business strategies and goals, then link them to employee behaviors. In an ever-changing workplace, executives may see this as a way to develop the workforce they need to achieve their objectives. In addition, the competencies needed to develop their workforce can help to align human resources processes and systems (Campion et al., 2011). For example, once a competency model has been created, that organization can now select new employees, evaluate performance, or create training programs all around these specific behaviors. These behaviors tie back to the business strategies, which leads to a continuous cycle of improvement, leading to business goals.

Traditional job analysis describes the tasks or behaviors needed to successfully complete a specific job. In contrast, competency modeling takes the idea further by seeking to identify factors that influence these behaviors (Sanchez & Levine, 2009). For example, a traditional job analysis may determine that an employee needs to supervise all marketing employees within their department. A competency modeling approach might find that in order for an individual to supervise the marketing employees effectively, they would need strong leadership skills. Having this link between the tasks, skills, and behaviors needed allows the organization to articulate to employees what behaviors they need to engage in in order to progress their career (Sanchez & Levine, 2009).

Table 1 (adapted from Sanchez & Levine, 2009) goes further into the differences between competency modeling and job analysis, showing even more distinctions between the two constructs. Sanchez and Levine (2009) explained that both competency modeling and traditional job analysis should be used in conjunction, rather than as two separate processes. Having both a traditional job analysis and a competency model within an organization can increase the overall rigor, increase legal defensibility, and fill in where the weaknesses lie within each construct.

Table 1

Traditional Job Analysis vs. Competency Modeling

	Job Analysis	Competency Modeling
Purpose	Describe Behavior	Influence Behavior
View of Job	External object to be described	Role to be enacted
Focus	Job	Organization
Time Orientation	Past	Future
Performance Level	Typical	Maximum
Measurement Approach	Latent trait	Clinical Judgment

Table adapted from Sanchez and Levine (2009)

The Competency Modeling Debate

Though competency modeling has often received better press than job analysis, it does not come without its pitfalls. Often, the psychometric properties of competency models have come into question in comparison to job analysis (Lievens & Sanchez,

2007). These psychometric property issues usually stem from a lack of rigor in the process of developing competency models. This lack of rigor is the central issue circling the competency modeling debate. In 2000, Shippmann et al. studied the differences between job analysis and competency modeling, finding that the largest gaps are between the rigor, documentation, and link to the business strategy. Evaluated further, competency modeling was found to have lower rigor and documentation, but higher link to business strategy.

Though previous research has alleged that competency modeling lacks rigor and documentation, the idea that competency modeling cannot be rigorous or have proper documentation is unlikely. Much like a job analysis procedure, if proper processes are put into place and best practices followed, a competency model can have just as much rigor and documentation as a job analysis. Lievens, Sanchez, and De Corte (2004) examined ways to increase the reliability and validity of inferences made when developing a competency model. They found that using subject matter experts (SME's), as well as blending both competency modeling and job analysis methods, results in higher discriminant validity and lower rater variability. This blended approach combines both organizational goals and objectives as well as task statements to develop the necessary competencies. Lievens and Sanchez (2007) then took this idea further and evaluated the use of frame of reference (FOR) training on competency modeling rigor. Again, they found that inter-rater reliability increased, so much so that they could cut the amount of trained individuals needed to select the competencies in half and still receive a higher coefficient than the untrained raters.

Competency Modeling Best Practices

While competency modeling processes may vary, there is a list of twenty best practices for organizations to follow when developing and implementing competency models (Campion et al., 2011). These best practices range from developing competency models, to organizing and presenting competencies, and finally reaching implementing a competency model. For example, Campion et al. (2011) assert that competency models should be tailored to the organization, be developed top down, and should include (1) a label, (2) a definition, and (3) differing levels of performance for each competency. For a full list of the best practices set in place along with their definitions, see Appendix A. Following these best practices is especially important, since previous research has shown that if a competency model is implemented inappropriately or without a strategy, there is a chance it may fail (Mirabile, 1997).

The best practices set forth by Campion et al. (2011) have even been noted in popular press (Graber, 2015). Due to the fact that these best practices have gotten attention in both academic and non-academic settings, it is logical to think that individuals with differing backgrounds may have had exposure to them. For example, the Society for Human Resource Management (SHRM) described using Campion et al. (2011)'s best practices when developing their competency model (SHRM competency model, 2012). So, while the best practices have been communicated, we do not know how widely, and it is unclear as to how they are used and by whom.

Determining an answer to this question is critical if we are to collect scientific evidence on the effectiveness on competency models and draw empirical conclusions regarding the efficacy of various competency modeling practices. If, however, competency models are developed and used in non-standardized ways our ability to develop a science of competency modeling will be stunted. It is reasonable to contend that practitioners from differing backgrounds might develop and use competency models differently. Much like the manner in which individuals from different educational backgrounds employ vastly different Executive Coaching practices (Liljenstrand & Nebeker, 2008), it is possible that practitioners with different educations and professional affiliations might develop and implement competency models differently.

The use of competency modeling seems to be a practice that is booming within organizations; yet research has not assessed how competency models are being developed or used. Furthermore, we do not have an understanding of how practitioners with varying backgrounds may be developing, using, and communicating competency models. Knowledge of who is developing and using competency models and to what degree they are doing so with rigor, and using processes and methods reflective of the best practices, is an important stepping stone in empirically examining competency models. This present study will identify (1) the way in which competency models are being developed and (2) the background and affiliations of the individuals that are developing competency modeling rigorously. This will further our understanding of the use and development of competency models, which can aid in the future use of competency modeling.

Hypotheses and Research Questions

Research Question 1. When *developing competency models*, are individuals within

organizations following the best practices, as set by Campion et al. (2011)?

Research Question 2. When *organizing and presenting their competency models*, are

individuals within organizations following the best practices, as set by Campion et

al. (2011)?

*Research Question 3.*When *implementing their competency models*, are individuals

within organizations following the best practices, as set by Campion et al. (2011)?

Research Question 4. Are there differences in the extent to which people in Human

Resources follow the best practices, as set by Campion et al. (2011), based upon

their educational backgrounds and professional affiliations?

Hypothesis 1. Individuals with backgrounds in Industrial and Organizational

psychology or Human Resource Management will use Campion et al. (2011)'s

best practices more frequently than those who do not have these educational

backgrounds.

Hypothesis 2. Individuals with affiliations to the Society for Industrial and

Organizational Psychology (SIOP), and/or the Society for Human Resource

Management (SHRM), and/or the Association for Talent Development (ATD)

will use Campion et al. (2011)'s best practices more frequently than those who

are not affiliated with these societies.

CHAPTER II

METHODS

Participants

Participants were recruited at the 2016 SIOP annual conference and through the member database, as well as through word of mouth. In an effort to target potentially more engaged human resource professionals, a list of potential participants was created using the SIOP member database by selecting individuals who stated competency modeling was one of their interests. In an effort to get a broader range of human resource professionals (e.g. those who did not have professional degrees or certifications), a LinkedIn search was conducted using the terms "competency modeling", "competencies", and "competency development". Several social media groups were identified relating to these search terms and information about the study, as well as a link to the survey, was posted on these groups. All participation was voluntary and participants were asked if they would like a copy of the final results in exchange for their time. In addition, an incentive was offered in order to increase the likelihood of participation.

Approximately 739 participants began the study and 62.5% of them completed the survey. Thus participants in this study were 462 professionals (218 men, 230 women, and 14 that did not identify a gender) who have had experience with developing, creating/presenting, or implementing single or multiple competency models. Of these participants, 39.8% of the participants reported that they were a "Consulting Professional," 35.3% reported that they were an "Internal HR Professional," and 24.9%

classified themselves as "Other." Approximately 70.9 % of the participants reported having had experience with multiple competency models.

The respondents that had worked with multiple competency models – as opposed to those that reported only working with one competency model – were deemed to have a more robust idea as to the processes they used in the past and would likely use again in the future. Because this group made up such a large percentage of the total respondents and because people that had developed multiple competency models were likely to provide more reliable information regarding the process used in developing competency models, future analyses were conducted with the response provided only by participants that reported working with or on multiple competency models.

The final sample consisted of 328 respondents (162 men, 158 women, and 8 that did not identify a gender). For the final sample, 42.1% reported that they were a "Consulting Professional," while 33.5% reported that they were an "Internal HR Professional" and 22.3% classified themselves as "Other."

Measures

The survey created for the present study encompasses the 20 best practices for competency modeling from Campion et al. (2011). The final survey is included in Appendix B. To begin, the 20 best practices were grouped into the three areas of interest: developing, organizing/presenting, and implementing. Individual survey items were then created to assess each of the best practices within these three areas. The items stemmed from previous studies and a panel of Subject Matter Experts (SMEs). The SME panel consisted of three university professors who work in consulting and have experience with

competency models as well as Campion et al.'s (2011) best practices. The panel evaluated the questions based on their applicability to the 20 best practices and three areas of interest and items were removed or adjusted until SME agreement was achieved.

To address the issue of individuals having experience with multiple competency models, the survey asked participants to select whether they have developed only one or multiple competency models for their organization. If participants selected only one, they then answered the questions solely regarding that one model. If they selected multiple, they answered the questions using a frequency based scale to ensure that all the models they have experience with were evaluated. The final survey resulted in 94 questions regarding competency models (47 for individuals with multiple competency models experience and 47 for single competency model experience). Participants only saw questions relevant to them based on their previously selected responses. In addition, 20 demographic questions were included at the end regarding educational background, professional affiliations, and organizational background.

Educational background was operationally defined as a participant's self-reported educational background. Degree majors and concentrations were assigned differing values (e.g. industrial psychology, business, psychology, finance, etc.). For each participant, the highest degree (high school, associates, undergraduate, masters, or doctoral degree) was coded. Each participant was categorized based upon their major and educational level.

Data regarding participants' professional affiliations was collected via a multiple-choice item that asked respondents if they were a member of the following: Society for

Industrial and Organizational Psychology (SIOP), Society for Human Resource

Management (SHRM), Association for Talent Development (ATD), and "Other."

Participants were permitted to "choose all that apply" in terms of their professional

affiliations. Responses for those that reported "Other" affiliations were grouped, coded,

and assigned a value. In total, we had 227 SIOP only members, 1 SHRM only member, 0

ATD only members, 56 SIOP and SHRM members, 18 SIOP and ATD members, and 16

SIOP, SHRM, and ATD members.

Procedure

The survey was administered through the Qualtrics online survey system. An

online survey link was distributed through e-mail and LinkedIn to individuals or groups

who might be interested in participating. Before starting the survey, participants received

information on the purpose, background information, and were given the opportunity to

provide consent to participate in the study. After providing their consent, participants

began the online survey. If they did not provide consent, participants were thanked for

their time and the survey closed.

The first question helped to distinguish whether the participant had developed one

or multiple competency models, as stated above. From here, participants answered the

questions relating to Campion et al.'s (2011) 20 best practices for developing competency

models. Lastly, participants were given a set of demographic questions. Once the survey

was complete, participants were thanked for their time, asked whether they would like a

copy of the final results through another link to a subsequent survey (to keep all

responses anonymous), and were given the opportunity to select an incentive option in

exchange for their time (participants could also "choose not to receive an incentive").

CHAPTER III

RESULTS

Descriptive statistics and frequency counts were calculated for all qualitative

questions related to the participants' demographic information. Descriptive statistics for

all quantitative variables can be found in Appendix C. In an effort to synthesize the

information collected, an exploratory factor analysis was conducted on the 12 outcome

measures (e.g. rigor, aligning human resource systems, capturing culture, etc.). This

analysis resulted in a three-factor structure: 1) rigor of competency models, which was a

one item scale, 2) link to organizational intentions ($\alpha = .87$, 9 item scale), and 3)

integration efforts ($\alpha = .90$, 2 item scale). The list of items associated with each scale is

presented in Appendix D. To answer research questions one through four, a series of

descriptive statistics were calculated and ANOVA's were computed to ascertain the

differing aspects of developing, organizing/presenting, and implementing competency

models.

Developing Competency Models – Research Question 1

Research question one examined the extent to which participants developed

competency models using the best practices outlined by Campion et al. (2011). It was

found that 34.8% of participants developed their competency models internally, while

11.8% used help from a consulting firm, and 6.6% were developed entirely by a

consulting firm. For those that used help form a consulting firm, it was found that 53.8%

were always custom tailored to the organization, while 2.7% were directly "off the shelf".

When developing their models, 31.8% of respondents reported that they always used a

project advisory group. Those who used a project advisory group had significantly higher ratings regarding the rigor of their competency models, $F(4, 308) = 5.23$, $MSE = 1953.96$, $p<.01$, and higher ratings regarding the link between their competency models to organizational intentions, $F(4, 251) = 5.92$, $MSE = 1579.56$, $p<.01$, than those who did not report using a project advisory group.

When collecting information and data to begin the development process, 32.9% of individuals reported beginning the process with executives, 20.6% begin with job incumbents, and 17.4% start with managers. They typically weighted the data from job incumbents highest, managers second, executives third, and human resource personnel last. The most commonly used techniques of collecting data were: subject matter expert interviews (81.4%), evaluating job descriptions (79.6%), and focus groups (70.1%). The least used methods were social networking sites (6.7%), electronic monitoring (6.1%), and work diaries (5.2%). Most individuals collected worker characteristics (84.1%), work activities (77.4%), performance standards (67.4%), work content (54.3%), and policies/procedures (51.5%).

After the competency models were developed, only 43.3% of individuals reported assessing the validity of their competency models. This means that less than half of the respondents implemented the competency models and then assessed the relevance of the competencies selected for the jobs in question. Similarly, only 35.7% reported assessing the reliability of their competency models. Approximately half (50.5%) of the respondents reported always documenting the processes used to develop their

competency models. The documentation often consists of creating a technical reports or user manuals of how the process flowed and keeping that information on file.

Those who documented their processes were shown to have higher ratings regarding rigor of their competency models, $F(4, 305) = 10.20$, $MSE = 3431.32$, $p<.01$, higher ratings of linkage between competency models and organizational intentions, $F(4, 249) = 8.67$, $MSE = 2237.65$, $p<.01$, and lastly, higher ratings of integration of the competency models into organizational processes and functions, $F(4, 233) = 4.46$, $MSE = 746.60$, $p<.01$, than those who did not document their process.

Organizing/Presenting Competency Models – Research Question 2

Research question two sought to evaluate whether participants organized and presented their competency models using the best practices by Campion et al. (2011). Overall, 76.3% of models include a description or definition of the main competency category, 50.8% include associated illustrative behaviors that described the main competency (allowing users to "see" the competency), and 43.0% of models include the levels of proficiency for each main competency. Approximately 11% of models include pictures, diagrams, or heuristics and most are typically entered into a table or grid format. Interestingly, for respondents ratings of rigor, respondents ratings of link between the competency model, and respondents ratings of integration efforts, there were no significant differences between those who reported using pictures, diagrams, or heuristics and those that did not.

Implementing Competency Models – Research Question 3

Research question three asked whether participants implemented their

competency models using the best practices as stated by Campion et al. (2011). After the

competency models had been implemented, 70.1% used their competency models for

development, 64.6% used their competency models for selection, 60.7% used their

competency models for performance appraisal, 60.1% used their competency models for

training, and 46.6% of respondents used their competency models for recruitment. In

addition, 17.9% of the respondents reported that their employees to use their competency

models to evaluate and understand their job performance. Participants reported that

33.9% of their employees understood performance expectations far above that of the

average employee due to their competency models. Relatively few participants reported

that their employees had a below average (17.6% below, 10% far below) understanding

of performance expectations due to their competency models.

Less than half (43.5%) of the participants reported that copies of their models are

always stored in a location or place that is readily available to employees. After the

competency models were completed and implemented, 19.8% of participants reported

that they always had a maintenance plan for updating their competency models. Those

who reported having a maintenance plan had significantly higher ratings regarding the

rigor of their competency models, $F(4, 252) = 5.74$, $MSE = 1949.45$, $p<.01$, higher

ratings regarding the link between the competency models and organizational intentions,

$F(4, 214) = 5.93$, $MSE = 1471.97$, $p<.01$, and higher ratings regarding the integration of

the competency models into organizational processes and functions, $F(4,238) = 3.30$,

$MSE = 576.53$, $p = .012$ than those who did not have a maintenance plan.

Competency Models and Educational Background – Hypothesis 1

Hypothesis one asked whether following the best practices set by Campion et al.

(2011) differed by educational background. A one-way ANOVA was conducted between

the outcome variables and a participant's self-reported educational background. Overall,

six areas of educational background were evaluated – psychology ($N=13$), I/O

psychology ($N=94$), business ($N=3$), management ($N=4$), organizational studies ($N=6$),

and other ($N=5$). Overall, the ANOVA ($\alpha = .05$) indicated no significant differences

between a participant's masters educational background and their ratings of the rigor of

processes used, their ratings of the link to organizational intentions, or their ratings of the

integration efforts of the competency model (See Table 2 for descriptive statistics).

In addition, a second ANOVA ($\alpha = .05$) was run between an individual's

doctorate educational background (Psychology = 24, I/O psychology = 161, human

resources = 3, other = 9) and the outcome variables. Overall, the ANOVA indicated no

significant differences between a participant's doctorate educational background and

their ratings of the rigor of processes used, their ratings of the link to organizational

intentions, or their ratings of the integration efforts of the competency models (See Table

3 for descriptive statistics). Therefore, Hypothesis 1 was not supported. Though no

differences were found, it is important to note that the groups were highly unequal,

meaning that the results should only be interpreted with caution.

Lastly, to take the analyses a step further, an ANOVA was run between level of educational background - no master's or doctorate ($N=14$), master's only ($N=94$), doctorate only ($N=170$), or master's and doctorate ($N=37$), and the outcome variables. The ANOVA ($\alpha = .05$) indicated no significant differences between a participant's level of educational background and their ratings of competency modeling rigor, their ratings of the link between their competency models and organizational intentions, or their ratings of implementation efforts of the competency models (See Table 4 for descriptive statistics).

Table 2

Descriptive Statistics for Rigor, Intentions, and Integration by Masters Degree

Variable		N	Mean	SD
Rigor				
N = 125	Psychology	13	70.85	24.84
	I/O Psychology	94	77.55	17.70
	Business	3	83.33	20.82
	Management	4	81.50	6.25
	Org. Studies	6	66.67	27.14
	Other	5	82.20	15.48
Intentions				
N = 95	Psychology	8	73.63	17.55
	I/O Psychology	73	67.37	17.06
	Business	2	60.22	1.57
	Management	4	74.86	6.40
	Org. Studies	4	58.67	19.09
	Other	4	67.69	8.60
Integration				
N = 91	Psychology	9	35.17	9.02
	I/O Psychology	69	31.09	13.88
	Business	2	15.00	15.56
	Management	3	40.83	8.95
	Org. Studies	3	31.17	6.53
	Other	5	43.40	16.70

Table 3

Descriptive Statistics for Rigor, Intentions, and Integration by Doctoral Degree

Variable		N	Mean	SD
Rigor				
N = 197	Psychology	24	74.63	19.40
	I/O Psychology	161	77.22	19.44
	Human Resources	3	81.33	5.51
	Other	9	74.33	18.32
Intentions				
N = 171	Psychology	18	72.90	14.10
	I/O Psychology	143	70.33	17.43
	Human Resources	2	78.06	9.82
	Other	8	65.32	23.08
Integration				
N = 166	Psychology	19	35.37	11.62
	I/O Psychology	139	34.02	13.38
	Human Resources	2	44.50	1.41
	Other	6	34.25	18.35

Table 4

Descriptive Statistics for Rigor, Intentions, and Integration by Level of Degree

Variable		N	Mean	SD
Rigor				
N = 315	No Master's or Doctorate	14	75.42	17.38
	Master's Only	94	74.97	19.92
	Doctorate Only	170	75.84	20.06
	Master's and Doctorate	37	80.19	14.79
Intentions				
N = 256	No Master's or Doctorate	10	62.10	23.69
	Master's Only	67	67.21	14.93
	Doctorate Only	147	70.94	16.68
	Master's and Doctorate	32	68.46	19.42
Integration				
N = 244	No Master's or Doctorate	5	24.40	15.32
	Master's Only	66	31.27	14.04
	Doctorate Only	145	34.35	13.33
	Master's and Doctorate	28	34.73	12.07

Competency Models and Professional Affiliations – Hypothesis 2

Hypothesis two questioned whether individuals with certain (SIOP, SHRM, ATD)

professional affiliations followed the best practices as set by Campion et al. (2011)

differently. An ANOVA with professional organizational affiliation (Society for Industrial and Organizational Psychology [SIOP] only, Society for Human Resource Management [SHRM] only, Association for Talent Development [ATD] only, SIOP and SHRM, SIOP and ATD, SHRM and ATD, and SIOP, SHRM, and ATD) as independent variables was conducted to determine if there were differences between the way in which competency models were developed based on professional affiliations (See Table 5 for descriptive statistics). Results indicated no significant differences between a participant's professional affiliations and their ratings of the rigor of processes used, their ratings of the link to organizational intentions, or their ratings of the integration efforts of the competency model. Thus Hypothesis 2 was not supported. Not all professional affiliations were equally represented, so it is important to note that the results should only be interpreted with caution.

Table 5

Descriptive Statistics for Rigor, Intentions, and Integration by Professional Affiliations

Variable		N	Mean	SD
Rigor				
$N = 315$	SIOP	217	75.55	19.42
	SHRM	2	71.50	26.16
	SIOP, SHRM	54	76.78	19.85
	SIOP, ATD	17	72.82	19.87
	SIOP, SHRM, ATD	16	84.63	17.55
Link to Org. Intentions				
$N = 256$	SIOP	175	69.80	16.27
	SHRM	2	42.22	5.50
	SIOP, SHRM	46	70.33	15.41
	SIOP, ATD	15	69.13	18.35
	SIOP, SHRM, ATD	13	69.31	27.45
Integration				
$N = 244$	SIOP	164	33.68	13.82
	SHRM	1	26.00	-
	SIOP, SHRM	46	32.07	13.68
	SIOP, ATD	16	29.09	10.37
	SIOP, SHRM, ATD	13	36.84	12.75

CHAPTER IV

DISCUSSION

Practical Implications

The overarching goals of this study were two-fold: a) first, this study sought to better understand what organizations are currently doing in regards to competency modeling; and b) second, this study sought to examine the extent to which difference in educational backgrounds or professional affiliations might result in differences in how practitioners use the competency modeling best practices proposed by Campion et al. (2011). Our findings demonstrate that when developing competency models, some organizations/respondents are following the best practices as set by Campion et al. (2011). For example, just over half of the competency models were custom tailored to the organization and half of respondents documented the processes they engaged in – though this also means that a little less than 50% of models were not custom tailored and processes were not documented. A minority of respondents reported assessing the reliability and validity of their models, which can be critical if their organizations ever come under legal scrutiny due to the competency model. In addition, only about one-third of the respondents reported that their organizations use a project advisory group when developing competency models. Those who did report using a project advisory group had higher reported rigor, better links to organizational intentions, and improved integration efforts. This may be something that organizations may want to consider implementing when trying to develop a competency model.

In terms of organizing and presenting competency models, less participants reported having proficiency levels than having descriptions/definitions and illustrative behaviors. This may be due to the purpose of the competency model, as proficiency levels may be better suited for promotion or development. In addition, only a small percentage of respondents reported using pictures, diagrams, or heuristics to describe the competency models, though using these did not result in higher rigor, meaning they may not be as important as other factors when deciding how to organize/present a competency model.

After the competency models are developed, organized, and presented, implementation of the model is an important factor in the success of a competency modeling initiative. Competency modeling use seems to be widely spread for different purposes, and may be simply up to the organizations needs at the time. However, only a small percentage of individuals believed their employees actually used their model to understand performance expectations. In addition, less than 50% of competency models were stored in a place that was easily accessible to employees, likely explaining the preceding small percentage. If the model is not stored in a readily accessible place, then it stands to reason that employees are likely to not use it. Lastly, approximately 20% of respondents had a maintenance plan for updating their competency model, though those who did had higher ratings of rigor, better links to organizational intentions, and improved integration efforts, meaning this could be an important aspect of the implementation and update process.

This study also found no differences between those with differing masters/doctoral educational backgrounds or professional affiliations and the likelihood that competency modeling best practices are being followed. This means that there may not be one "right" individual to do competency modeling and rather, proper research can aid throughout the process. That being said, our sample of differing backgrounds was extremely small and almost all participants were SIOP members, meaning that these conclusions should be evaluated cautiously and more research should be conducted.

Theoretical/Research Implications

In terms of research, this study helped to close the gap between what is known about competency modeling in organizations and what the research shows. Currently, no research has evaluated the development and use of competency models in actual organizations. This study allows us some insight to the processes that are happening in applied settings and allows us to see that there are still areas that need to be further evaluated. It seems that, for the most part, some best practices are being followed and others that are not. For example, many respondents reported custom tailoring their competency models while less are evaluating the reliability and validity. The differences in these decisions should be evaluated as the research continues to progress.

In addition, there may be differences in the use of bets practices between practitioners that have worked with multiple competency models and individuals who have one worked with one competency model. Though this question was beyond the scope of the present study, it should be evaluated further as it could demonstrate how

individuals tailor or change their processes based on the number of competency models they have developed.

Limitations and Suggestions for Future Research

Regarding limitations, this study only looked at the best practices as set by Campion et al. (2011). Though these are some of the most recent and most noted best practices for competency modeling, they are not the only way to develop a competency model. Practitioners and organizations that might be using steps and other rigorous techniques were not included directly in this survey. In addition, the survey was reliant on the self-report of participants. This can sometimes be an unreliable way to measure variables, especially when asking respondents to recall how they developed competency models in a very large amount of detail. Lastly, our study may not be as generalizable as we would have liked it to be, as almost all participants were SIOP members and we could not make meaningful comparisons between the some groups as we would have wished. As stated previously, future research should further evaluate the differences between educational backgrounds and professional affiliations further by gaining a broader sample of differing qualifications, and affiliations. In addition, the way in which individuals change which best practices they follow as they continue to develop additional competency models may also be of interest.

Conclusion

This study sought to benchmark and investigate the current practices of practitioners who develop and implement competency models in organizations. Overall, the findings are a "mixed bag." We can report that some best practices are being followed

when developing, organizing/presenting, and implementing competency models, yet many others are not. Our findings also point to the fact that there are some perceive benefits to following the best practices. By and large, respondents that followed the competency modeling best practices reported higher ratings of rigor in the development of their competency models, an improved link between the competency models organizational intentions, and increased integration efforts stemming from the competency modeling initiative.

While our results are far from conclusive, we did not find meaningful differences between respondents from differing backgrounds or professional affiliations regarding their use of competency modeling best practices. This study marks an important first step in the examination of competency models and competency modeling practices in contemporary organizations. As the use of competency models increases, it is important that research continue to progress and evaluate the use of competency modeling in applied settings.

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APPENDICES

APPENDIX A: CAMPION ET AL. (2011) 20 BEST PRACTICES

1. *Considering organizational context:* Tailor the competencies to the organization (market place, culture, strengths) when they are being developed and described.

2. *Linking competency models to organizational goals and objectives:* Start by defining the organizational goals and objectives then translate these into competencies that are critical for employees to have to help the organization reach these goals.

3. *Start at the top*: Start collecting information for the competency model from executives, as they will have the best knowledge of the business goals and objectives as well as the future direction of the organization.

4. *Using rigorous job analysis methods to develop competencies*: Combine methods/components of job analysis (clear construct definitions, appropriate assessment of reliability, etc.) to increase rigor of the competency model made. This can include a project advisory group to guide the process.

5. *Considering future-oriented job requirements*: Use long-range business strategies and SME's to identify key competencies to reach those strategies.

6. *Using additional unique methods*: Use methods such as behavioral event interviews, employee surveys, studying contrasting groups, etc. to make sure the development is rigorous.

7. *Defining the anatomy of a competency (the language of competencies)*: Include (a) a title (b) a definition and (c) the levels of proficiency. Include an appropriate level of detail for the application.

8. *Defining levels of proficiency on competencies:* Describe progressive levels of competence with highly observable behaviors.

9. Us*ing organizational language:* Desire to create competency language unique to each organization based on organization's jargon, acronyms, job titles, etc.

10. *Including both fundamental (cross-job) and technical (job specific) competencies:* When competency models must be applied across jobs include both common and unique competencies.

11. *Using competency libraries:* Use competency libraries if time frame is an issue or as a starting point.

12. *Achieving the proper level of granularity (number of competencies and amount of detail):* Level of detail and number of competencies depends on purpose. Best to have fewer, more detailed competencies than a large number of brief competencies.

13. *Using diagrams, pictures, and heuristics to communicate competency models to employees:* Augment the competency model with visuals.

14. *Using organizational development techniques to ensure competency modeling acceptance and use:* Allow for widespread involvement from employees when creating the competency model

15. *Using competencies to develop HR systems*: Incorporate competency model into HR systems (structured interviews, performance appraisals, etc.)

16. *Using competencies to align HR systems:* Use the competency model to align disjointed HR practices. Allow you to hire, train, appraise, develop, etc. on the same KSAO's.

17. *Using competencies to develop a practical "theory" of effective job performance tailored to the organization:* The competency model allows you to describe what matters to job performance and how to be successful.

18. *Using IT to enhance the usability of competency models:* Use IT to store the model somewhere that is readily available for employees.

19. *Maintaining the currency of competencies over time:* Create a maintenance plan when initially creating the competency model based on the frequency for change in the organization and the nature of the roles. Rule of thumb: update every 5 years.

20. *Using competency modeling for legal defensibility:* Validate your competency model.

APPENDIX B: QUALTRICS SURVEY

Project Title: Booming Practice or Bust: The Use and Development
of Competency Models in Organizations

Purpose of Project: To gain a better understanding of the way in which organizations are developing, presenting, and implementing their competency models.

Procedures: Participants will be asked to answer questions about the use of competency modeling within their organization. The study will take approximately 30 minutes.

Risks/Benefits: There are no expected social or physical risks to you during or after your participation in this study beyond those experienced in everyday life while using computers. Participants' involvement will help researchers gain a better understanding of the way in which competency models are being used within organizations. At the end of the survey, participants will be able to indicate if they would like a copy of the final results of this study.

Confidentiality: Every attempt will be made to see that your study results are kept confidential. A copy of the records from this study will be securely stored in the Department of Psychology for at least three (3) years after the end of this research. The results of this study may be published and/or presented at meetings without naming you as a subject. Although your rights and privacy will be maintained, the Secretary of the Department of Health and Human Services, the MTSU IRB, and personnel particular to this research (Dr. Mark Frame) have access to the study records. Your responses, informed consent document, and records will be kept completely confidential according to current legal requirements. They will not be revealed unless required by law, or as noted above.

Principal Investigator / Contact Information: If you should have any questions or concerns about this research study, please feel free to contact Mark Frame, Ph.D. at Mark.Frame@mtsu.edu or at (615) 898-2565.

Participating in this project is voluntary, and refusal to participate or withdrawing from participation at any time during the survey will involve no penalty or loss of benefits to which the subject is otherwise entitled. All efforts, within reason, will be made to keep the personal information in your research record private but total privacy cannot be promised, for example, your information may be shared with the Middle Tennessee State University Institutional Review Board. In the event of questions or difficulties of any kind during or following participation, the subject may contact the Principal Investigator as indicated above. For additional information about giving consent or your rights as a

participant in this study, please feel free to contact the MTSU Office of Compliance at (615) 494-8918.

STATEMENT BY PERSON AGREEING TO PARTICIPATE IN THIS STUDY

I have read and understand the above consent form. By choosing the "I wish to participate in this study" option, I indicate my willingness to voluntarily take part in the study. If you do not wish to participate in the research study, please decline participation by choosing the "I do not wish to participate in this study" option.

❍ I wish to participate in this study
❍ I do not wish to participate in this study

Q3 I am 18 years of age or older.
❍ Yes
❍ No

Q4 Is your organization currently using competency modeling?
❍ Yes
❍ No

Q5 How many competency models do you have direct/indirect experience with?
❍ One
❍ More than One

MULTIPLE COMPETENCY MODELS: DEVELOPING

Q7 Do you have direct experience developing competency models?
○ Yes
○ No

Q8 Do you have knowledge of how your organization's competency models were developed?
○ Yes
○ No

Q9 On average, to what extent do you feel that developing your competency models includes a rigorous process. (0 = no rigor involved, 100 = extremely rigorous). Please click and drag the blue circle.
Rigor: 0 _____ 100

Q10 How are your competency models developed?

	Always	Most of the time	About half the time	Sometimes	Never
Internally developed	○	○	○	○	○
Developed with help from a consulting firm	○	○	○	○	○
Developed entirely by a consulting firm	○	○	○	○	○

Q11 On average, how many main competency categories make up your competency models? An example of a main competency category might be Customer Focus or Analytical Problem Solving Skills. (Please answer in numeric format.) _____

Q12 For which level(s) are your competency models used?

	Always	Most of the time	About half the time	Sometimes	Never
Job-specific (e.g. mechanic)	○	○	○	○	○
Organization level (e.g. entire car service shop)	○	○	○	○	○

Q13 Are your competency models custom to your organization or "off the shelf"?

	Always	Most of the time	About half the time	Sometimes	Never
Custom Tailored	○	○	○	○	○
Off the Shelf	○	○	○	○	○

Q14 On average, to what extent do you feel your competency models capture your organizational culture, strengths, and weaknesses? (0 = does not capture, 100 = fully captures). Please click and drag the blue circle.
Culture 0 _____100
Strengths 0 _____100
Weaknesses 0 _____100

Q15 On average, to what extent do you feel your competency models capture your organizational goals, mission, and objectives? (0 = does not capture, 100 = fully captures). Please click and drag the blue circle.
Goals 0 _____100
Mission 0 _____100
Objectives 0 _____100

Q16 On average, to what extent do you feel your competency models consider long-range business strategies and future job requirements? (0 = does not consider, 100 = fully considers). Please click and drag the blue circle.
Long-Range Business Strategies 0 _____100
Future Job Requirements   0 _____100

Q17 Does developing your competency models include the use of a project advisory group (ex: a group solely responsible for the development)?
○ Always
○ Most of the time
○ About half the time
○ Sometimes
○ Never

Q18 On average, how many individuals are in charge of developing your competency models? _____

Q19 When developing your competency models, from who is information collected?

	Always	Most of the time	About half the time	Sometimes	Never
Executives	○	○	○	○	○
Human Resource Personnel	○	○	○	○	○
Managers	○	○	○	○	○
Job Incumbents	○	○	○	○	○
Other (please specify):	○	○	○	○	○

Q20 On average, who do you FIRST collect data from when developing your competency models?

Executives
Human Resource Personnel
Managers
Job Incumbents
Other (please specify):

Q21 On average, how do you weight the data that you collect from the previous stakeholders? (Click and drag the items to arrange from top to bottom: 1 = highest weight, 5 = lowest weight)

___ Executives
___ Human Resource Personnel
___ Managers
___ Job Incumbents

Q22 Please select what type of processes were used and what type of processes you wish you had used when developing your competency models:

	What type of processes were used?	What type of processes do you wish you had used?
	Select all that apply	Select all that apply
Focus Groups	❑	❑
Questionnaires	❑	❑
Critical Incidents	❑	❑
Assessment of Reliability	❑	❑
Subject Matter Expert Interviews	❑	❑
Observations	❑	❑
Electronic Monitoring	❑	❑
Work Diaries	❑	❑
Job Analysis Data	❑	❑
Study Contrasting Groups	❑	❑
Job Descriptions	❑	❑
O*NET	❑	❑
Assessment of Validity	❑	❑
Structured Brainstorming	❑	❑
Pre-made Competency Libraries	❑	❑
Literature Reviews	❑	❑
Social Networking Sites	❑	❑
Process Documentation/Flow Charts	❑	❑
Employee Surveys	❑	❑
Other (please specify): _____	❑	❑

Q23 Please select what type of data were collected and what type of data you wish you had when developing your competency models:

	What type of data were collected?	What type of data do you wish you had collected?
	Select all that apply	Select all that apply
Work activities (tasks performed)	❏	❏
Worker characteristics (knowledge, skills, abilities)	❏	❏
Work content (physical environment, tools, equipment)	❏	❏
Performance standards	❏	❏
Policies, procedures	❏	❏
Qualifications, licenses	❏	❏
Other (please specify): _____	❏	❏

Q24 After development is complete, is the process for developing your competency models documented?
❍ Always
❍ Most of the time
❍ About half the time
❍ Sometimes
❍ Never

Q25 Please explain the way in which you document the development of your competency models: _____

MULTIPLE COMPETENCY MODELS: ORGANIZING/PRESENTING

Q26 Do you have direct experience with organizing or presenting competency model information?
○ Yes
○ No

Q27 Do you have knowledge of how your organization's competency models are organized or presented?
○ Yes
○ No

Q28 Image from Campion et al. (2011)

Q29 Do your competency models include a description or definition of each main competency category? (For an example, please look at the number "2" above)
○ Always
○ Most of the time
○ About half the time
○ Sometimes
○ Never

Q30 Please explain the process of how the content of the descriptions were developed:
_____

Q31 Image from Campion et al. (2011)

Q32 Do your competency models describe the levels of proficiency of each main competency category? (For an example, please look at number "3" above)
- ◯ Always
- ◯ Most of the time
- ◯ About half the time
- ◯ Sometimes
- ◯ Never

Q33 Please explain the process of how the content of the levels of proficiency were developed: _____

Q34 Image from Campion et al. (2011)

Q35 Do your competency models include associated illustrative behaviors that describe (enable you to "see") each main competency? (For an example, please look at the definitions below number "3" above)
❍ Always
❍ Most of the time
❍ About half the time
❍ Sometimes
❍ Never

Q36 Please explain the process of how the content of the descriptions were developed:
_____

Q37 On average, to what extent do you feel your competency models considers your organizational language (0 = does not consider, 100 = fully considers). Please click and drag the blue circle.
ç Organizational Language 0 _____100

Q38 Do your competency models include diagrams, pictures, or heuristics?
- ○ Always
- ○ Most of the time
- ○ About half the time
- ○ Sometimes
- ○ Never

Q39 Which of the following BEST represents your competency models (select all that apply)?

- ❑
- ❑
- ❑
- ❑
- ❑
- ❑ None of these look like our competency models

MULTIPLE COMPETENCY MODELS: IMPLEMENTING

Q40 Do you have direct experience with implementing competency models within organizations?
○ Yes
○ No

Q41 Do you have knowledge of how your organization's competency models were implemented?
○ Yes
○ No

Q42 For which of the following HR functions are your competency models used? (Please select all that apply)
❑ Recruitment
❑ Selection
❑ Training
❑ Appraisal
❑ Development
❑ Other: _____

Q43 On average, to what extent do you feel your competency models have been integrated into and aligned your HR systems (0 = have not at all, 100 = fully have). Please click and drag the blue circle.
Integrated into HR Systems   0 _____100
Aligned HR Systems   0 _____100

Q44 Do employees use your competency models to evaluate their job performance?
○ Always
○ Most of the time
○ About half the time
○ Sometimes
○ Never

Q45 On average, to what extent do you think employees understand what is expected for performance on their job because of the competency models? (0 = do not understand at all, 100 = fully understand). Please click and drag the blue circle.
Understand Performance Expectations 0_____100

Q46 Are your competency models stored in a place that is readily accessible to all employees?
○ Always
○ Most of the time
○ About half the time
○ Sometimes
○ Never

Q47 Do you have a maintenance plan for updating your competency models?
○ Always
○ Most of the time
○ About half the time
○ Sometimes
○ Never

Q48 On average, how often are your competency models updated? _____

Q49 In your opinion, how often should competency models be updated? _____

MULTIPLE COMPETENCY MODELS: LEGAL

Q50 Has your organization ever had to legally defend your competency models?
○ Yes
○ No

Q51 Was the outcome of legally defending your competency models positive, negative, or neutral?
○ Positive
○ Negative
○ Neutral
○ On-going

Q52 If you are free to do so, please elaborate on the outcome of having to legally defend your competency models: _____

Q53 To what extent would you feel uncomfortable/comfortable having to legally defend your competency models?
○ Extremely comfortable
○ Moderately comfortable
○ Slightly comfortable
○ Neither comfortable nor uncomfortable
○ Slightly uncomfortable
○ Moderately uncomfortable
○ Extremely uncomfortable

<u>SINGLE COMPETENCY MODEL: DEVELOPING</u>

Q54 Do you have direct experience developing a competency model?
○ Yes
○ No

Q55 Do you have knowledge of how your organization's competency model was developed?
○ Yes
○ No

Q56 On average, to what extent do you feel that developing your competency model includes a rigorous process. (0 = no rigor involved, 100 = extremely rigorous). Please click and drag the blue circle.
Rigor 0 _____100

Q57 How was your competency model developed?
○ Internally developed
○ Developed with help from a consulting firm
○ Developed entirely by a consulting firm

Q58 How many main competency categories make up your competency model? An example of a main competency category might be Customer Focus or Analytical Problem Solving Skills. (Please answer in numeric format.) _____

Q59 For which level(s) is your competency model used? (Please select all that apply)
❑ Job-specific (e.g. mechanic)
❑ Organization level (e.g. entire car service shop)

Q60 Is your competency model custom to your organization or "off the shelf"?

	1	2	3	4	5
Custom Tailored →Off the Shelf	○	○	○	○	○

Q61 On average, to what extent do you feel your competency model captures your organizational culture, strengths, and weaknesses? (0 = does not capture, 100 = fully captures). Please click and drag the blue circle.
Culture 0 _____100
Strengths 0 _____100
Weaknesses 0 _____100

Q62 On average, to what extent do you feel your competency model captures your organizational goals, mission, and objectives? (0 = does not capture, 100 = fully captures). Please click and drag the blue circle.

Goals 0 _____100
Mission 0 _____100
Objectives 0 _____100

63 On average, to what extent do you feel your competency model considers long-range business strategies and future job requirements? (0 = does not consider, 100 = fully considers). Please click and drag the blue circle.

Long-Range Business Strategies 0 _____100
Future job requirements 0 _____100

Q64 Does developing your competency model include the use of a project advisory group (ex: a group solely responsible for the development)?
❍ Yes
❍ No
❍ I'm Unsure

Q65 Approximately how many individuals were in charge of developing your competency model? _____

Q66 When developing your competency model, from who was information collected? (Please select all that apply)
❑ Executives
❑ Human Resource Personnel
❑ Managers
❑ Job Incumbents
❑ Other (please specify): _____
❑ None of the above

Q67 On average, who do you FIRST collect data from when developing your competency model?
❍ Executives
❍ Human Resource Personnel
❍ Managers
❍ Job Incumbents
❍ Other: _____

Q68 How do you weight the data that you collect from the previous stakeholders? (Click and drag the items to arrange from top to bottom: 1 = highest weight, 5 = lowest weight)

___ Executives
___ Human Resource Personnel
___ Managers
___ Job Incumbents
___ Other: _____

Q69 Please select what type of processes were used and what type of processes you wish you had used when developing your competency model:

	What type of processes were used?	What type of processes do you wish you had used?
	Select all that apply	Select all that apply
Focus Groups	❏	❏
Questionnaires	❏	❏
Critical Incidents	❏	❏
Subject Matter Expert Interviews	❏	❏
Observations	❏	❏
Electronic Monitoring	❏	❏
Work Diaries	❏	❏
Job Analysis Data	❏	❏
Study Contrasting Groups	❏	❏
Job Descriptions	❏	❏
O*NET	❏	❏
Assessment of Validity	❏	❏
Assessment of Reliability	❏	❏
Structured Brainstorming	❏	❏
Pre-made Competency Libraries	❏	❏
Literature Reviews	❏	❏
Social Networking Sites	❏	❏
Process Documentation/Flow Charts	❏	❏
Employee Surveys	❏	❏
Other (please specify): _____	❏	❏

Q70 Please select what type of data were collected and what type of data you wish you had when developing your competency model: (Please select all that apply)

	What type of data were collected?	What type of data do you wish you had collected?
Work activities (tasks performed)	❑	❑
Worker characteristics (knowledge, skills, abilities)	❑	❑
Work content (physical environment, tools, equipment)	❑	❑
Performance standards	❑	❑
Policies, procedures	❑	❑
Qualifications, licenses	❑	❑
Other (please specify):	❑	❑

Q71 After development is complete, is the process for developing your competency model documented?
❍ Yes
❍ No
❍ I'm Unsure

Q72 Please explain the way in which you document the development of your competency model: _____

SINGLE COMPETENCY MODEL: ORGANIZING/PRESENTING

Q73 Do you have direct experience with organizing or presenting competency model information?
○ Yes
○ No

Q74 Do you have knowledge of how your organization's competency model is organized or presented?
○ Yes
○ No

Q75 Image from Campion et al. (2011)

Q76 Does your competency model include a description or definition of each main competency category? (For an example, please look at the number "2" above)
○ Yes
○ No
○ I'm Unsure

Q77 Please explain the process of how the content of the descriptions were developed:
_____

Q78 Image from Campion et al. (2011)

Q79 Does your competency model describe the levels of proficiency of each main competency category? (For an example, please look at number "3" above)

❍ Yes

❍ No

❍ I'm Unsure

Q80 Please explain the process of how the content of the levels of proficiency were developed: _____

Q81 Image adapted from Campion et al. (2011)

Q82 Does your competency model include associated illustrative behaviors that describe (enable you to "see") each main competency? (For an example, please look at the definitions below number "3" above)
❍ Yes
❍ No
❍ I'm Unsure

Q83 Please explain the process of how the content of the descriptions were developed:
_____

Q84 On average, to what extent do you feel your competency model considers your organizational language (0 = does not consider, 100 = fully considers). Please click and drag the blue circle.
Organizational Language 0 _____100

Q85 Do your competency models include diagrams, pictures, or heuristics?
○ Yes
○ No
○ I'm Unsure

Q86 Which of the following BEST represents your competency model (select all that apply)?

○

○

○

○

○
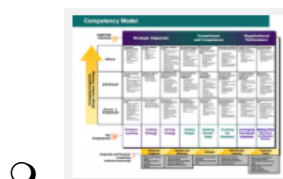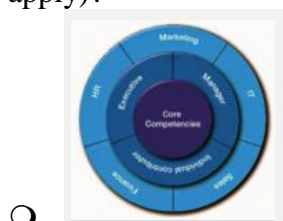
○ None of these look like our competency model

SINGLE COMPETENCY MODEL: IMPLEMENTING

Q87 Do you have direct experience with implementing a competency model within an organization?
❍ Yes
❍ No

Q88 Do you have knowledge of how your organization's competency model was implemented?
❍ Yes
❍ No

Q89 For which of the following HR functions is your competency model used? (Please select all that apply)
❑ Recruitment
❑ Selection
❑ Training
❑ Appraisal
❑ Development
❑ Other: _____

Q90 On average, to what extent do you feel your competency model has been integrated into and aligned your HR systems (0 = has not at all, 100 = fully has). Please click and drag the blue circle.
Integrated into HR Systems 0 _____100
Aligned HR Systems 0 _____100

Q91 Do employees use your competency model to evaluate their job performance?
❍ Yes
❍ No
❍ I'm Unsure

Q92 On average, to what extent do you think employees understand what is expected for performance on their job because of the competency model? (0 = do not understand at all, 100 = fully understand). Please click and drag the blue circle.
Understand Performance Expectations 0 _____100

Q93 Is your competency model stored in a place that is readily accessible to all employees?

❍ Yes

❍ No

❍ I'm Unsure

Q94 Do you have a maintenance plan for updating your competency model?

❍ Yes

❍ No

❍ I'm Unsure

Q95 On average, how often is your competency model updated? _____

Q96 In your opinion, how often should a competency model be updated? _____

SINGLE COMPETENCY MODEL: LEGAL

Q97 Has your organization ever had to legally defend your competency model?
❍ Yes
❍ No

Q98 Was the outcome of legally defending your competency model positive, negative, or neutral?
❍ Positive
❍ Negative
❍ Neutral
❍ On-going

Q99 If you are free to do so, please elaborate on the outcome of having to legally defend your competency model: _____

Q100 To what extent would you feel uncomfortable/comfortable having to legally defend your competency model?
❍ Extremely comfortable
❍ Moderately comfortable
❍ Slightly comfortable
❍ Neither comfortable nor uncomfortable
❍ Slightly uncomfortable
❍ Moderately uncomfortable
❍ Extremely uncomfortable

<u>DEMOGRAPHICS</u>

Q101 In what year were you born? _____

Q102 With which of the following do you most identify?
- ○ Man
- ○ Woman

Q103 What is your race?
- ○ White
- ○ Black
- ○ Hispanic
- ○ Asian/ Pacific-islander
- ○ Native American
- ○ Other (please specify): _____

Q104 Which of the following describe your educational background: (Please select all that apply)
- ❑ Some high school, no diploma
- ❑ High school graduate or the equivalent (example: GED)
- ❑ Trade/technical/vocational training
- ❑ Some college credit, no degree
- ❑ Associate degree (please specify major) _____
- ❑ Bachelor's degree (please specify major) _____
- ❑ Master's degree (please specify major) _____
- ❑ Professional degree (please specify major) _____
- ❑ Doctoral degree (please specify major) _____

Q105 Which of the following best describes you?
- ○ Internal HR Professional
- ○ Consulting Professional
- ○ Other (please specify): _____

Q106 How long have you been with your current employer?
- ❍ Less than one year
- ❍ 1 to 2 years
- ❍ 3 to 5 years
- ❍ 6 to 10 years
- ❍ 11 to 20 years
- ❍ More than 20 years

Q107 How long have you held your current position?
- ❍ Less than one year
- ❍ 1 to 2 years
- ❍ 3 to 5 years
- ❍ 6 to 10 years
- ❍ More than 10 years

Q108 Which of the following best represents your current level in the organizational for which you work?
- ❍ Top Management (company CEO; president)
- ❍ Senior Executive (SVP; EVP; business group head)
- ❍ Executive (VP; business unit/division head; plant manager)
- ❍ Upper Middle Management (director; major function/department manager)
- ❍ First Line Management (supervisor of professionals/technicians/specialists)
- ❍ I do not manage other employees
- ❍ Other (please explain): _____

Q109 Which of the following functional or business areas do you manage? Please mark all that apply. If your position spans many areas because you are a general manager (e.g. CEO, president, group executive), please mark "general management."
- ❑ General Management
- ❑ Business Unit
- ❑ Product Line
- ❑ Marketing
- ❑ Sales
- ❑ Customer Service
- ❑ Purchasing/Buying
- ❑ Product Distribution/Warehousing
- ❑ Research and Development
- ❑ Engineering
- ❑ Credit Administration
- ❑ Quality Assurance
- ❑ Operations
- ❑ Manufacturing/Production
- ❑ Administrative Services
- ❑ Corporate Development/Strategic Planning
- ❑ Finance/Accounting
- ❑ Human Resources/Personnel
- ❑ Information Systems/Data Processing
- ❑ Legal
- ❑ Public Affairs/Government Relations
- ❑ Real Estate/Property Management
- ❑ Other (please specify): _____

Q110 How many employees report directly to you? _____

Q111 How many total employees report to you (directly and indirectly)?
○ Less than 5
○ 5 to 9
○ 10 to 19
○ 20 to 49
○ 50 to 99
○ 100 to 499
○ 500 to 999
○ 1,000 to 9,999
○ 10,000 or more

Q112 Please list any professional organizations with which you are affiliated (select all that apply):
○ Society for Industrial and Organizational Psychology
○ Society for Human Resource Management
○ Association for Talent Development
○ Other:

Q113 Please list any certifications you currently hold: _____

Q114 Which best describes your organization?
○ Government
○ Publicly Traded
○ Privately Held

Q115 Approximately how many years has your organization been in business: _____

Q116 Approximately how many full-time employees does your organization employ?
_____

Q117 What is your current employer's primary area of business?
- ○ Aerospace
- ○ Automotive
- ○ Banks
- ○ Chemical
- ○ Conglomerate
- ○ Consumer Products
- ○ Containers & Packaging
- ○ Defense
- ○ Discount & Fashion Retail
- ○ Education
- ○ Electrical & Electronic
- ○ Entertainment Industry (Film, Television, Music)
- ○ Financial non-bank
- ○ Food
- ○ Fuel
- ○ Government
- ○ Health Care/ Medicine
- ○ Housing & Real Estate
- ○ Insurance
- ○ Leisure time industry
- ○ Manufacturing
- ○ Metals & Mining
- ○ Nonprofit
- ○ Office Equip/Computers
- ○ Paper & Forest Products
- ○ Publishing & Broadcasting
- ○ Service Industries
- ○ Social Services
- ○ Telecommunications
- ○ Transportation
- ○ Utilities and Power
- ○ Other (please specify): _____

Q118 Would you be willing to share an example of your organization's competency model(s) with the researchers?
❍ Yes
❍ No

Q119 If you would like to receive the results of this research when it is complete, please type the e-mail address at which you wish to receive the results. **This e-mail will be kept separate from any of your previous responses.**
If you do not wish to receive a copy of the results, please select the ">>" button.

_____

END OF SURVEY

Thank you for participating in the Competency Modeling Best Practices Survey. Your answers have been recorded. If you have any additional questions, please feel free to contact Dr. Mark Frame at Mark.Frame@mtsu.edu.

Thank you!

APPENDIX C: DEMOGRAPHIC TABLES

Descriptive Statistics for Demographic Variables

Variable		Frequency	Percentage
Gender			
N = 320	Male	162	49.4
	Female	158	48.2
	No Response	8	2.4
Race			
N = 316	Caucasian/White	271	85.8
	Black or African American	11	3.5
	Hispanic	13	4.1
	Asian/Pacific-Islander	16	5.1
	Native American	1	.3
	Other	4	1.3
Professional Affiliations			
N = 328	SIOP	317	96.6
	SHRM	74	22.6
	ATD	34	10.4
Tenure with Employer			
N = 322	Less than one year	48	14.9
	1 to 2 years	66	20.5
	3 to 5 years	71	22.0
	6 to 10 years	50	15.5
	11 to 20 years	54	16.8
	More than 20 years	33	10.2
Tenure in Position			
N = 321	Less than one year	61	19.0
	1 to 2 years	92	28.7
	3 to 5 years	73	22.7
	6 to 10 years	37	11.5
	More than 10 years	58	18.1
Type of Organization			
N = 312	Government	72	23.1
	Publicly Traded	79	25.3
	Privately Held	161	51.6

APPENDIX D: SCALE ITEMS

Rigor

(Q9) On average, to what extent do you feel that developing your competency models includes a rigorous process? (0 = no rigor involved, 100 = extremely rigorous)

Link to Organizational Intentions ($\alpha = .87$)

(Q14) On average, to what extent do you feel your competency models capture your organizational culture? (0 = does not capture, 100 = fully captures)

(Q14) On average, to what extent do you feel your competency models capture your organizational strengths? (0 = does not capture, 100 = fully captures)

(Q14) On average, to what extent do you feel your competency models capture your organizational weaknesses? (0 = does not capture, 100 = fully captures)

(Q15) On average, to what extent do you feel your competency models capture your organizational goals? (0 = does not capture, 100 = fully captures)

(Q15) On average, to what extent do you feel your competency models capture your organizational mission? (0 = does not capture, 100 = fully captures)

(Q15) On average, to what extent do you feel your competency models capture your organizational objectives? (0 = does not capture, 100 = fully captures)

(Q16) On average, to what extent do you feel your competency models consider long-range business strategies? (0 = does not consider, 100 = fully considers)

(Q16) On average, to what extent do you feel your competency models consider future job requirements? (0 = does not consider, 100 = fully considers)

(Q37) On average, to what extent do you feel your competency models capture your organizational language? (0 = does not capture, 100 = fully captures)

Integration Efforts ($\alpha = .90$)

(Q43) On average, to what extent do you feel your competency models have been integrated into your HR systems? (0 = have not at all, 100 = fully have)

(Q43) On average, to what extent do you feel your competency models have aligned your HR systems? (0 = have not at all, 100 = fully have)

APPENDIX E: IRB APPROVAL

IRB
INSTITUTIONAL REVIEW BOARD
Office of Research
Compliance, 010A
Sam Ingram Building,
2269 Middle
Tennessee Blvd
Murfreesboro, TN
37129

IRBN001 - EXPEDITED PROTOCOL APPROVAL NOTICE

Thursday, October 06, 2016

Investigator(s):   Megan Loftis (PI) and Dr. Mark
Frame (FA) Investigator(s') Email(s):
meg5w@mtmail.mtsu.edu
Department: Psychology

Study Title: *A survey to understand the use and development of competency models in organizations*
Protocol ID: **17-2048**

Dear Investigator(s),

The above identified research proposal has been reviewed by the MTSU Institutional Review Board (IRB) through the **EXPEDITED** mechanism under 45 CFR 46.110 and 21 CFR 56.110 within the category *(7) Research on individual or group characteristics or behavior* A summary of the IRB action and other particulars in regard to this protocol application is tabulated as shown below:

IRB Action	APPROVED for one year from the date of this notification
Date of expiration	10/31/2017
Participant Size	200 Participants
Participant Pool	Participants are recruited through professional organizations: the Society for Industrial and Organizational Psychology (SIOP), the Society for Human Resource Management (SHRM), and the Association for Talent Development (ATD).

Exceptions	N/A	
Restrictions	**N/A**	
Comments	None	
Amendments	**Date**	**Post-approval Amendments**
	N/A	None

This protocol can be continued for up to THREE years (10/31/2019) by obtaining a continuation approval prior to 10/31/2017. Refer to the following schedule to plan your annual project reports and be aware that you may not receive a separate reminder to complete your continuing reviews. Failure in obtaining an approval for continuation will automatically result in cancellation of this protocol. Moreover, the completion of this study MUST be notified to the Office of Compliance by filing a final report in order to close-out the protocol.

Continuing Review Schedule:

Reporting Period	Requisition Deadline	IRB Comments
First year report	10/31/2017	INCOMPLETE
Second year report	10/31/2018	INCOMPLETE
Final report	10/31/2019	INCOMPLETE

The investigator(s) indicated in this notification should read and abide by all of the post-approval conditions imposed with this approval. Refer to the post-approval guidelines posted in the MTSU
IRB's website. Any unanticipated harms to participants or adverse events must be reported to the Office of Compliance at (615) 494-8918 within 48 hours of the incident. Amendments to this protocol must be approved by the IRB. Inclusion of new researchers must also be approved by the Office of Compliance before they begin to work on the project.

All of the research-related records, which include signed consent forms, investigator information and other documents related to the study, must be retained by the PI or the faculty advisor (if the PI is a student) at the secure location mentioned in the protocol application. The data storage must be maintained for at least three (3) years after study completion. Subsequently, the researcher may destroy the data in a manner that maintains confidentiality and anonymity. IRB reserves the right to modify, change or cancel the terms of this letter without prior notice. Be advised that IRB also reserves the right to inspect or audit your records if needed.

Sincerely,

Institutional Review Board
Middle Tennessee State University