October 12, 2005

Managerial Competency Assessment of MBA Students

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Abstract

This paper assesses the integration of a managerial competency framework into a part-time MBA curriculum at a private mid-western university. Managerial competency development was measured by comparing perceived competency levels through ratings furnished by students' managers before and after the students completed the MBA program.   The data were collected through a survey of the students' managers. The data analysis indicated that significant increases were recorded for the managers' perceptions of the student competency levels for 60% of the competencies emphasized in the curriculum and 29% of the other competencies measured. To strengthen future results, a recommendation is presented for shifting the managerial competency development from a faculty driven effort to a student owned learning process using Intentional Change Theory as a model.

Managerial Competency Assessment of MBA Students

For decades, graduate management programs have been challenged with the task of developing students into outstanding managers and leaders. The Master of Business Administration (MBA) program at Ashland University, a private mid-western institution, has taken measures to address this challenge. Their approach is to determine what qualities or competencies are most desired by employers and incorporate corresponding development opportunities into the program curriculum. By developing these qualities, students gain more than threshold knowledge – they become more effective managers and leaders (Boyatzis, 1982). The qualities referenced here are considered competencies by Boyatzis who defines them as "the underlying characteristics of a person that lead to or cause effective and outstanding performance" (p. 21). This study examines the integration of a competency development framework in Ashland University's part-time MBA program. Student competency ratings are measured and compared over time. In addition, suggestions for enhancing the program and assessment designs are presented.

Managerial Competency Framework

Ashland University has incorporated a Managerial Competency Framework into its part-time MBA program. The framework represents an adaptation of the Management Competency Model developed by Boyatzis in his 1982 book entitled *The Competent Manager: A Model for Effective Performance*. Boyatzis and his colleagues at McBer and Company analyzed data collected from 12 organizations and more than 2,000 people in 41 management jobs within those organizations with the objective to generate a list of every competency that had been shown to relate to manager effectiveness. The resulting list of 21 competencies is presented in Appendix A. The works of Boyatzis, Goleman (1998), Quinn, Faerman, Thompson, and McGrath (1996), and Spencer and Spencer (1993) were combined with additional literature review, faculty discussions, and employer

input to create the Managerial Competency Framework. This framework, which is presented in Table 1, was adopted by Ashland University MBA faculty in the late 1990s. It includes eight managerial competencies: (a) Effective Communication, (b) Problem Solving, (c) Specialized Knowledge, (d) Leadership, (e) Organizational and Personnel Management, (f) Structured Networking, (g) Personal Growth, and (h) Entrepreneurial Abilities. The first four competencies were considered focal to the MBA program and were explicitly emphasized in the curriculum. The remaining four competencies were considered other competencies the students may wish to develop.

Insert Table 1 about here

Examples of deliberate efforts to develop managerial competencies in Ashland University's MBA program include: (a) writing and presentation assignments to strengthen Effective Communication, (b) root cause analysis and business case analysis to develop Problem Solving, and (c) team building exercises and group projects to strengthen Managing Group Process. Students also have the option to earn scholarships for conference participation and publications, which further strengthen their effective communication competency. Based on research conducted by MBA program administrators, communication skills are considered the most frequently desired skills to employers of MBA graduates. Therefore, a strong emphasis is placed on developing communication skills within the program.

Managerial Competency Assessment

Students' managerial competencies were assessed by their managers at the beginning and end of the MBA program with the expectation that they would improve as a result of the integrated Managerial Competency Framework. This study examined whether students improved their

managerial competencies between the beginning and completion of their MBA program. Since there was an intentional effort to develop focal managerial competencies in MBA students, it was anticipated that students would demonstrate greater improvement in focal competencies than in other competencies.

<div align="center">Research Design</div>

This study includes a pre-assessment and a post-assessment of managerial competencies. The research design is considered by Campbell and Stanley (1963) to be a One-Group Pretest-Posttest Design represented by the paradigm $O_1 \quad X \quad O_2$. In this study, O_1 represents the pre-MBA assessment, X represents the competency-based MBA program (i.e., treatment), and O_2 represents the post-MBA assessment. Campbell and Stanley recommend this type of quasi-experimental design when there is a lack of full control over portions of an experiment.

Given the circumstances of this study, the lack of a control group contributes to a reduced level of internal validity. This research design is unable to control for students' experiences at work and in other aspects of their lives during the average 2.5-year duration of the MBA program, which also reduces the level of internal validity. External validity is limited by the fact that this study was conducted in a single program at a single school where respondents were self-selected. However, concerns over the nonrandom nature of the convenience sample may be partially mitigated by comparing the relevant characteristics of the sample to those of the population (Fraas, 1983). The closer these characteristics match, the more likely a representative sample has been selected. The demographics for the convenience sample in this study closely align with the population demographics with respect to gender, undergraduate degree, and age. The sample reflects a 59/41 ratio of males to females, which is similar to the population ratio of 60/40. The average age at entry is 33 for the sample compared to 34 for the population. Given these factors, it is believed that the

sample is a reasonable representation of the population with respect to these characteristics. It should be noted, however, that the sample reflects a higher ratio of business to non-business undergraduate degree students (70/30) than does the population (48/52).

Instruments

The survey instrument used in this study was a single page two-sided form with four focal competencies and four other competencies. A number of questions regarding each competency were listed. For example, respondents were asked to rate the students on two questions to gauge their perceived level of the Effective Communication competency: (a) Written Communication Skills and (b) Verbal Communication Skills. The number of questions presented varied for each competency. In total, there were 34 competency questions for the eight managerial competencies. Each of these 34 questions required the raters to respond to a 5-point Likert scale. On the pre-MBA assessment form the descriptors of *Needs Improvement, Good,* and *Excellent* were given for the numbers 1, 3, and 5, respectively. An additional response option of *Not Applicable or Not Observed* was available and was treated as missing data when selected by a respondent.

The instrument was completed by the prospective student's manager as part of the MBA program application process. This pre-MBA assessment provided baseline managerial competency ratings for new MBA students. When applying for graduation, students were asked to provide a second managerial competency assessment form completed by their manager. This post-MBA assessment instrument contained the same items as the pre-MBA assessment form with a few minor differences described in the subsequent paragraph. On occasion, respondents completed online forms that replicated the hard-copy instruments.

Three versions of the pre-MBA assessment form were used, with slight differences between them. Version 1 was completed by 9% of the respondents, Version 2 was completed by 74% of the

respondents, and Version 3 was completed by the remaining 17% of respondents. The following

two differences exist between pre-MBA assessment forms:

1. Pre-MBA form Version 1 was missing three competency questions: (a) Logical Thinking, (b)

   Ability to Use Theories and Concepts, and (c) Team Building Skills. Raters who completed

   this form were unable to respond to those competency questions. Thus, no data were

   recorded for those questions in cases where respondents completed Version 1 of the pre-

   MBA form.

2. Pre-MBA form Version 3 had materially different descriptors for the competency questions

   labeled *Ability to Work with Clients* and *Ability to Accept Instruction* in the post-MBA

   assessment form. Because the responses for the pre-MBA form Version 3 competency

   questions did not correspond with the post-MBA form (i.e., the equivalent of pre-MBA form

   Version 2), a comparison of ratings would not be accurate. Therefore, no data were recorded

   in the data set for questions labeled *Ability to Work with Clients* and *Ability to Accept*

   Instruction in cases where respondents completed pre-MBA form Version 3.

A third reason for missing data was due to respondent selection of *Not Applicable or Not Observed.*

No data were recorded in the data set when raters chose that response for any competency question

in any of the forms. The option of selecting *Not Applicable or Not Observed* and the adjustments

made to equalize different versions of the pre-MBA form accounted for the varying sample sizes

reported in the results presented in this study.

Only one version of the post-MBA assessment form existed, which resembled the pre-MBA

form Version 2 except descriptors were Poor, Fair, Good, Very Good, and Excellent for the points 1,

2, 3, 4, and 5, respectively. In the cases where pre-MBA assessment ratings were missing, the

corresponding post-MBA data were also treated as missing data. The instrument was not tested for

validity. However, Cronbach's alpha coefficients were used to estimate the reliability of the scores

produced by the instrument. Cronbach's alpha coefficients were relatively high for all competencies

except Specialized Knowledge. With the exception of Specialized Knowledge, pre-MBA

Cronbach's alpha coefficients ranged from .78 to .91 and post-MBA coefficients ranged from .74 to

.91. These results, which are presented in Table 2, indicate a fairly high reliability of the scores

produced by the instrument.

Insert Table 2 about here

Sample Size

Although submission of the pre-MBA assessment form was mandatory, submission of the

post-MBA assessment was optional. Therefore, few post-MBA assessment forms were completed

and returned to the university. A total of 17 post-MBA assessments were received for the 165

students graduating in 2003 (10% response rate), 12 were received for the 197 students graduating in

2004 (6%), and 51 were received for the 182 students graduating in 2005 (28%). Since no

significant program changes were administered between 2003 and 2005, the assessments were

treated as a single sample of 80 respondents with an overall response rate of 15%.

Part-time students complete this MBA program in an average of 2.5 years. During this

extended length of time, it was typical for students to change positions and report to a different

manager. It is not surprising that only 34 of the 80 responses had the same rater for both the pre-

MBA and post-MBA assessments (43%). Linear regression analysis of each question indicated that

the amount of variation in the post-MBA scores accounted for by the two categories of ratings (i.e.,

the same rater and different rater) was not statistically significant at the .05 alpha level. Thus the entire sample size of 80 paired assessments was analyzed in this study.

Dependent t-Tests

It was assumed that the Likert scale used in the pre-MBA and post-MBA assessment instruments produced interval level data. Therefore, the differences in the post-MBA and pre-MBA scores were statistically tested with dependent *t* tests. It was anticipated that students would improve their managerial competencies during their MBA program. Given the single direction anticipated, one-tailed tests were conducted, which increased the power of the statistical tests.

The alpha level for this study was set at .05. Given the large number of statistical tests being conducted, the chance of committing a Type I error is high. Toothaker (1991) suggests that the probability of committing at least one Type I error may approach the value indicated by the formula $1 - (1 - \alpha_{ind})^m$ where α_{ind} represents the alpha level established for each individual test and *m* is the number of statistical tests being conducted. In this study, this upper probability limit value was .83. The reader should be aware that alpha levels were not adjusted in this study.

Effect Sizes

To gauge the size of the change between post-MBA ratings and pre-MBA ratings from a standpoint of practical significance, effect sizes were calculated using the formula:

$$(\overline{X}_{post} - \overline{X}_{pre})/S_{post}$$

Where:

1. $\overline{X}_{post}$ represents the means of post-MBA ratings

2. $\overline{X}_{pre}$ represents the means of pre-MBA ratings

3. S_{post} represents the standard deviations of post-MBA ratings.

Cohen (1998) suggests that an effect size of 0.2 is considered small, an effect size of 0.5 is

considered medium, and an effect size of 0.8 is considered large. These guidelines were used to

evaluate the data in this study and were delineated as follows: (a) effect sizes less than or equal to

0.2 were considered small, (b) effect sizes between 0.2 and 0.8 were considered medium, and (c)

effect sizes of 0.8 and above were considered large.

<div align="center">Results</div>

Dependent *t*-test results and effect sizes for focal managerial competency questions are

provided in Table 3, while Table 4 lists results for other managerial competency questions. The

symbol *d* is used to represent the effect size for each difference between the post-score and pre-

score.

<div align="center">Insert Tables 3 and 4 about here</div>

Focal Competencies

Effective communication. The competency questions regarding the Effective Communication

competency were Written Communication Skills and Verbal Communication Skills. The post-scores

were significantly higher than the corresponding pre-scores for Written Communication Skills

($p<.01$) and Verbal Communication Skills ($p<.05$). In addition, medium effect sizes were reported

for both Written Communication Skills ($d=.37$) and Verbal Communication Skills ($d=.25$)

competency questions.

Problem solving. Three competency questions regarding the Problem Solving competency

were (a) Conceptual Thinking, (b) Logical Thinking, and (c) Ability to Use Theories and Concepts.

Post-scores were significantly higher than the corresponding pre-scores for Conceptual Thinking

(p<.05), but not for the other two questions. A medium effect size was reported for the Conceptual Thinking (d=.38) competency question, as well. Small effect sizes were found for the Logical Thinking and Ability to Use Theories and Concepts questions.

Specialized knowledge. Perceptions regarding students' performance in the Specialized Knowledge competency were assessed with three questions: (a) Computing Skills, (b) Financial Analysis Skills, and (c) Resource Management Skills. Financial Analysis Skills (p<.01) were found to have significantly higher post-scores than pre-scores. Improvement in the remaining two areas was not found to be significant. A medium effect size was reported for the Financial Analysis Skills (d=.50) question. Computing Skills and Resource Management Skills were found to have small effect sizes.

Leadership. Managing Group Process and Team Building Skills were the two competency questions within the Leadership competency. The post-scores were significantly higher than the corresponding pre-scores for Managing Group Process Skills (p<.01) and Team Building Skills (p<.05). Medium effect sizes were reported for both Managing Group Process Skills (d=.61) and Team Building Skills (d=.35).

Other Competencies

Organizational and Personnel Management. Questions regarding the Organizational and Personnel Management competency include: (a) Ability to Work as a Member of a Team, (b) Open-Minded/Willing to Learn, (c) Conflict Resolution Skills, and (d) Customer Service Skills. Of these four questions, only Conflict Resolution Skills (p<.05) was found to have significantly higher post-scores than corresponding pre-scores. The Conflict Resolution Skills question was also found to have a medium effect size (d=.25). Small effect sizes were found for the remaining three questions within the Organizational and Personnel Management competency.

Structured Networking. Three competency questions regarding the Structured Networking competency were: (a) Appropriate Personal Appearance/Behavior, (b) Ability to Work with Staff, and (c) Ability to Work with Clients. Post-scores were not significantly higher than pre-scores for any of the competency questions within Structured Networking. In addition, small effect sizes were found for each of these questions.

Personal Growth. Perceptions regarding students' performance in the Specialized Knowledge competency were assessed with the following 12 questions: (a) Punctual, (b) Dependable and Trustworthy, (c) Organizing Skills, (d) Planning Skills, (e) Ability to Accept Instruction, (f) Willingness to Seek Assistance, (g) Ability to Work Independently, (h) Adherence to Company Rules/Norms, (i) Works Enthusiastically, (j) Motivated, (k) Adaptable/Flexible, and (l) Maintains High Performance and Focus. The post-scores were significantly higher than the corresponding pre-scores for Organizing Skills ($p<.01$), Ability to Work Independently ($p<.01$), Willingness to Seek Assistance ($p<.05$), and Adherence to Company Rules/Norms ($p<.05$). The remaining questions within this competency were not found to have ratings improvement at the established level of significance. The following six questions within the Personal Growth competency were reported in Table 4 as having medium effect sizes: (a) Organizing Skills, $d=.36$; (b) Planning Skills, $d=.21$; (c) Willingness to Seek Assistance, $d=.31$; (d) Ability to Work Independently, $d=.41$; (e) Adherence to Company Rules/Norms, $d=.31$; and (f) Maintains High Performance/Focus, $d=.26$. Small effect sizes were reported for the remaining six questions, including negative effect sizes for Punctual and Dependable and Trustworthy.

Entrepreneurial Activities. The five competency questions regarding the Entrepreneurial Activities competency were: (a) Creative/Innovative, (b) Ability to Make Decisions, (c) Ability to Take Calculated Risks, (d) Accepts Responsibility for Actions, and (e) Takes Initiative. Post-scores

were significantly higher than pre-scores for Ability to Make Decisions ($p<.05$) and Ability to Take

Calculated Risks ($p<.05$). Medium effect sizes were also reported for Ability to Make Decisions

($d=.22$) and Ability to Take Calculated Risks ($d=.22$). Effect sizes considered small were found for

the remaining three competency questions.

Summary of Results

Students in this study demonstrated statistically significant improvement in 13 of 34

managerial competency questions (38%) as perceived by their managers. In particular, post-MBA

ratings for 6 of 10 focal competency questions were significantly higher than the corresponding pre-

MBA ratings. This improvement in 60% of the focal competency questions may be partially

attributed to the faculty's intentional competency development efforts. When competency

development efforts were not intentional (i.e., for other competencies students may wish to develop),

statistically significant improvement was demonstrated in only 29% of the questions (7 of 24).

Effect sizes for 6 of 10 focal competency questions were reported as medium (60%), as were 9 of 24

other competency questions (38%).

<div align="center">Discussion</div>

MBA students in this study demonstrated greater improvement in focal managerial

competencies than in other managerial competencies. However, why this occurred is still open for

debate. It would be convenient to claim that the university's deliberate effort to develop managerial

competencies explains why students demonstrated improvement in focal managerial competencies

more than in others. Such effort certainly may have contributed to the positive study results.

However, due to lack of full control over experimental design, it is prudent to consider other factors

as potentially contributing to improved managerial competency ratings. It is therefore recommended

that additional research be conducted to identify other contributing factors and to assess the

magnitude of their impact.

One suggestion is to have the students complete the pre-MBA and post-MBA managerial

competency assessments at the same time as their managers complete them on their behalf. In this

way, the same measure may be used as a self-report and as an evaluation of the behaviors others see

– essentially completing a partial 360 assessment (Boyatzis, Stubbs, and Taylor, 2002). Another

recommendation is to conduct exit interviews with graduating students and their managers to capture

perceptions of what caused the changes in managerial competency levels. This suggestion could be

expanded further to include fostering communication between MBA students and their managers

regarding the students' managerial competency learning objectives throughout their tenure in the

MBA program (P.A. Sears, personal communication, March 7, 2005). These student-manager

discussions may establish or strengthen resonant relationships, which are the keystone of Boyatzis'

Intentional Change Theory (1999, 2001).

Applying Intentional Change Theory to Ashland University's managerial competency

development process has tremendous potential. Primarily, it would address the Managerial

Competency Framework's key deficiency – the competency development is directed by the faculty

rather than owned by the individual students (with the exception of the conference and publication

scholarships, which students take the initiative to pursue). The question of whether students can

sustain their perceived improvement in managerial competencies over time may be answered by an

examination of the extent to which they internalized their competency learning objectives. If

students take ownership of their learning objectives, rather than relying solely on the faculty to set

the learning agenda, the long-term payoff may be more beneficial. Ideally, the MBA program would

shift its paradigm from a teaching-centered (i.e., faculty led) focus to one driven by individual

student learning interests (Boyatzis, Cowen, and Kolb, 1995).

It is ardently suggested that Ashland University's MBA faculty and administrators

investigate successful implementations of competency development programs at other institutions.

For example, The Weatherhead School of Management (WSOM) at Case Western Reserve

University designed an MBA course that assists students in exploring their competency levels,

personal values and goals, philosophy, and learning styles to construct a personal learning plan

(Boyatzis, 1994). A similar course was integrated into the WSOM Professional Fellows Program

(Ballou, Bowers, Boyatzis, and Kolb, 1999). In the fall of 1990, the new WSOM program was

incorporated into the MBA curriculum with positive results. Outcome studies comparing students

who completed the old program and those who completed the new one show that graduates from the

new program demonstrate many of the competencies to a significantly greater degree than do the

students graduating from the old program (Boyatzis et al., 1995, p. 195). Additional studies

conducted by Boyatzis et al. (2002) indicate that WSOM MBA students in later years continued to

develop competencies crucial to effectiveness as managers and leaders during their programs.

Empirical evidence suggests that the WSOM model works. Universities interested in developing

managerial competencies in their students would be wise to consider this example. At the very least,

the concept of a personal learning agenda may be a useful complement to Ashland University's

Managerial Competency Framework.

The approach taken by WSOM has been replicated with minor modifications in an Italian

MBA program organized by the Fondazione CUOA of Vicenza (Camuffo and Gerli, 2004). This

program also places students at the center of their competency learning objectives. Like Ashland

University's MBA Program, the Italian MBA program also adapted Boyatzis' (1982) competency

model to meet the needs of their stakeholders. In this case, the selected stakeholders were a sample of CUOA MBA alumni employed as managers (Camuffo and Gerli). This approach is particularly appealing in that it reduces the burden of external influences on internal development goals. Students may more readily accept and internalize their managerial competency learning objectives knowing that those who are demanding such performance share a similar educational experience. There may be benefits associated with adopting this approach to refine the Managerial Competency Framework and increase student ownership.

A Managerial Assessment and Development course similar to the one implemented at WSOM (now called Leadership Assessment and Development) exists in the University of Redlands' Master of Arts in Management program (Spee & Tomkins, 2001). In addition to completing initial competency assessments and developing a self-directed learning plan, each student tracks their own progress with a Portfolio Notebook and completes a Reflective Manager course at the end of their program comprised of re-assessment activities and reflective essays (Spee & Tomkins). By revisiting their learning plans frequently, students may strengthen their awareness and possibly commitment to their individual learning objectives.

The WSOM program content and design was also modeled by Cornell University's Master of Management in Hospitality program (Brownell & Chung, 2001). Like other examples cited in this paper, the program's competency model was derived from stakeholder input. Brownell and Chung (p. 139) report five key benefits from the competency-based Management Development Model: (a) the change in the student-teacher relationship, (b) the increased focus on internal information sharing, (c) the increased clarity of desired student outcomes, (d) the ability to articulate the distinctive competencies of program graduates, and (e) increased student satisfaction and learning.

The latter three outcomes would be of particular benefit to Ashland University's MBA program; therefore, it is recommended that the faculty and administrators take this model into consideration.

Two additional competency-based development models are noteworthy due to their implementation in smaller institutions like Ashland University. The notion that only large universities have the resources and ability to implement competency-based programs is refuted by evidence of successful achievements at Alverno College (Mentkowski & Associates, 2000) and John Carroll University (Smith & Forbes, 2001). These examples strengthen the case that there is potential to expand the Managerial Competency Framework and assessment process in a manner similar to one or more of the models presented.

Future Research

The research question in this study asked if students improved their managerial competencies as perceived by their managers while they were enrolled in Ashland University's MBA program. Data indicate that some managerial competency ratings of sample students increased from pre to post assessments. This leads to the broader question: *What factors caused the improvement in managerial competency ratings and how can they be measured?* Future study is needed to identify and measure the contributing factors.

In addition to searching for an answer to the posed question, the current research design can be enhanced to address limitations. The following suggestions for research design enhancements are offered:

1. Develop a rubric for raters to follow, providing examples of behaviors indicative of managerial competencies demonstrated at each rating level.

2. Make post-MBA assessment mandatory to ensure that all students are assessed.

3. Change the current scales, which measure perceptions, to behaviorally anchored response scales. Asking raters to indicate the frequency of observed behaviors rather than assess current performance will alleviate a social desirability bias (R.E. Boyatzis, personal communication, April 19, 2005).

4. Have additional raters (e.g., self, peers, subordinates, and clients) complete the pre-MBA and post-MBA managerial competency assessment forms to provide students with 360 degree feedback. The existing research design measured managers' perceptions of demonstrated managerial competencies. A more thorough assessment may be generated by including perspectives from other raters.

5. Combine this instrument with additional assessment methods (e.g., learning style assessments, coded interviews, coaching sessions, videotaped presentations, group activities, and emotional intelligence assessments) for a more thorough view of students' managerial competency development. Enriching the feedback provided to students may help them create more useful learning agendas and ultimately demonstrate greater improvement in their managerial competencies.

Lastly, there is great potential in applying Intentional Change Theory to managerial competency development efforts in Ashland University's MBA Program. By shifting the emphasis from teaching to learning, faculty can empower students to take ownership of their learning agendas. It is believed that this would contribute to sustainable competency development resulting in more effective managers and leaders.

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Table 1

Managerial Competency Framework

Focal Competencies

    Effective Communication

    Problem Solving

    Specialized Knowledge

    Leadership

Other Competencies

    Organizational and Personnel Management

    Structured Networking

    Personal Growth

    Entrepreneurial Abilities

Table 2

Cronbach's Alpha Coefficients for Focal and Other Managerial Competencies

Competencies	Number of Questions	Pre-MBA Cronbach's Alpha[a]	Post-MBA Cronbach's Alpha[a]
Effective Communication	2	.86 (76)	.74 (79)
Problem Solving	3	.80 (67)	.84 (70)
Specialized Knowledge	3	.55 (62)	.67 (67)
Leadership	2	.84 (62)	.85 (67)
Organizational and Personnel Management	4	.78 (75)	.84 (77)
Structured Networking	3	.81 (62)	.88 (63)
Personal Growth	12	.91 (66)	.91 (63)
Entrepreneurial Abilities	5	.86 (71)	.85 (75)
All Competencies	34	.95 (35)[b]	.95 (39)[b]

[a] The number in parentheses equals the sample size used in each calculation

[b] The reader should use caution interpreting this result given the low sample size

Table 3

Dependent t-Test Results and Effect Sizes for Focal Managerial Competency Questions

Focal Managerial Competencies		Pre-MBA n = 69-80[a]	Post-MBA n = 67-80[a]	Difference	*p* value	*d* value
Written Communication Skills	Mean	3.94	4.20	.26	.003**	.37
	Std. Dev.	.80	.70			
Verbal Communication Skills	Mean	4.03	4.20	.17	.033*	.25
	Std. Dev.	.80	.70			
Conceptual Thinking	Mean	4.00	4.25	.25	.015*	.38
	Std. Dev.	.82	.67			
Logical Thinking	Mean	4.38	4.42	.04	.295	.06
	Std. Dev.	.70	.64			
Ability to Use Theories/Concepts	Mean	4.25	4.34	.09	.209	.14
	Std. Dev.	.67	.66			
Computing Skills	Mean	4.40	4.51	.11	.126	.18
	Std. Dev.	.74	.62			
Financial Analysis Skills	Mean	3.85	4.22	.37	.001**	.50
	Std. Dev.	.89	.75			
Resource Management Skills	Mean	3.96	4.09	.13	.088	.19
	Std. Dev.	.78	.72			
Managing Group Process Skills	Mean	3.80	4.27	.47	.001**	.61
	Std. Dev.	.90	.78			
Team Building Skills	Mean	3.96	4.24	.28	.016*	.35
	Std. Dev.	.90	.80			

[a] Sample size is listed as a range due to varied number of responses for each competency assessed

one-tailed * *p* < .05. ** *p* < .01

Table 4

Dependent t-Test Results and Effect Sizes for Other Managerial Competency Questions

Other Managerial Competencies		Pre-MBA n = 62-80[a]	Post-MBA n = 63-80[a]	Differ- ence	p value	d value
Ability to Work as a Member of a Team	Mean	4.54	4.59	.05	.287	.09
	Std. Dev.	.65	.57			
Ability to Work with Staff	Mean	4.43	4.55	.12	.066	.19
	Std. Dev.	.80	.63			
Open-Minded/Willing to Learn	Mean	4.58	4.66	.08	.160	.15
	Std. Dev.	.61	.55			
Conflict Resolution Skills	Mean	3.83	4.04	.21	.023*	.25
	Std. Dev.	.82	.82			
Customer/Client Service Skills	Mean	4.29	4.41	.12	.055	.17
	Std. Dev.	.76	.69			
Appropriate Personal Appear./Behavior	Mean	4.50	4.53	.03	.385	.04
	Std. Dev.	.64	.64			
Ability to Work with Clients	Mean	4.47	4.56	.09	.113	.14
	Std. Dev.	.65	.62			
Punctual	Mean	4.48	4.46	-.02	.500	-.03
	Std. Dev.	.78	.68			
Dependable and Trustworthy	Mean	4.78	4.76	-.02	.434	-.03
	Std. Dev.	.50	.46			
Organizing Skills	Mean	4.33	4.55	.22	.008**	.36
	Std. Dev.	.79	.61			
Planning Skills	Mean	4.30	4.43	.13	.105	.21
	Std. Dev.	.74	.61			
Ability to Accept Instruction	Mean	4.39	4.45	.06	.271	.10
	Std. Dev.	.70	.59			
Willingness to Seek Assistance	Mean	4.25	4.46	.21	.016*	.31
	Std. Dev.	.72	.66			
Ability to Work Independently	Mean	4.56	4.79	.23	.004**	.51
	Std. Dev.	.63	.44			
Adherence to Company Rules/Norms	Mean	4.56	4.71	.15	.029*	.31
	Std. Dev.	.61	.48			
Works Enthusiastically	Mean	4.61	4.61	.00	.500	.00
	Std. Dev.	.61	.61			
Motivated	Mean	4.63	4.65	.02	.390	.03
	Std. Dev.	.62	.60			
Adaptable/Flexible	Mean	4.45	4.49	.04	.347	.06
	Std. Dev.	.61	.67			
Maintains High Performance/Focus	Mean	4.39	4.55	.16	.070	.26
	Std. Dev.	.77	.63			
Creative/Innovative	Mean	4.05	4.17	.12	.109	.18
	Std. Dev.	.74	.63			
Ability to Make Decisions	Mean	4.13	4.28	.15	.048*	.22
	Std. Dev.	.70	.68			
Ability to Take Calculated Risks	Mean	3.88	4.04	.16	.040*	.22
	Std. Dev.	.76	.76			
Accepts Responsibility for Actions	Mean	4.47	4.52	.05	.313	.07
	Std. Dev.	.64	.68			
Takes Initiative	Mean	4.35	4.48	.13	.148	.20
	Std. Dev.	.72	.64			

[a] Sample size is listed as a range due to varied number of responses for each competency assessed
one-tailed * $p < .05$. ** $p < .01$

Appendix A
Management Competencies (Boyatzis 1982)

Accurate Self-Assessment

Conceptualization

Concern with Close Relationships

Concern with Impact

Developing Others

Diagnostic Use of Concepts

Efficiency Orientation

Logical Thought

Managing Group Process

Memory

Perceptual Objectivity

Positive Regard

Proactivity

Self-Confidence

Self-Control

Specialized Knowledge

Spontaneity

Stamina and Adaptability

Use of Oral Presentations

Use of Socialized Power

Use of Unilateral Power

Appendix B
Pre-MBA Managerial Competency Assessment Form[a]

Manager Evaluation of MBA Candidate and Personal Competency Assessment

Candidate's Name _____ Date _____

Company Name _____ Manager _____

As the manager of the above-named candidate, you are submitting this evaluation and recommendation to the Chair of the Graduate Business Program to help us evaluate the candidate's application to the university's MBA Program. Your employee's success in the program is in part a function of his or her goals. We hope your input will help the candidate, and us, target appropriate goals and growth opportunities. Therefore, this form will be reviewed with the student as part of his or her formal Graduate Business Development Plan.

Please evaluate your employee by placing a "check" in the box that most closely describes his/her current performance or effectiveness.

Focal Competencies in the MBA Program	Needs Improvement 1	2	Good 3	4	Excellent 5	Not Applicable or Not Observed	Comments
Effective Communication							
Written communication skills	❏	❏	❏	❏	❏	❏	_____
Verbal communication skills	❏	❏	❏	❏	❏	❏	_____
Problem-Solving							
Conceptual (big picture) thinking	❏	❏	❏	❏	❏	❏	_____
Logical (cause-effect) thinking	❏	❏	❏	❏	❏	❏	_____
Ability to use theories and concepts	❏	❏	❏	❏	❏	❏	_____
Specialized Knowledge							
Computing skills	❏	❏	❏	❏	❏	❏	_____
Financial analysis skills	❏	❏	❏	❏	❏	❏	_____
Resource management skills	❏	❏	❏	❏	❏	❏	_____
Leadership							
Managing group process	❏	❏	❏	❏	❏	❏	_____
Team building skills	❏	❏	❏	❏	❏	❏	_____

Other Competencies that the candidate may wish to develop

Organizational and Personnel Management							
Use of Socialized Power							
Ability to work as member of a team	❏	❏	❏	❏	❏	❏	_____
Open-minded / willing to learn	❏	❏	❏	❏	❏	❏	_____
Conflict resolution skills	❏	❏	❏	❏	❏	❏	_____
Customer service skills	❏	❏	❏	❏	❏	❏	_____
Structured Networking							
Concern with Impact							
Appropriate personal appearance/behavior	❏	❏	❏	❏	❏	❏	_____
Concern with Close Relationships							
Ability to work with staff	❏	❏	❏	❏	❏	❏	_____
Ability to work with clients	❏	❏	❏	❏	❏	❏	_____

Over ➡

[a] Identifying factors have been removed from this form, which resembles version 2 completed by 74% of raters.

Other Competencies *(continued)*	Needs Improvement 1	2	Good 3	4	Excellent 5	Not Applicable or Not Observed	Comments
Personal Growth							
Efficiency Orientation							
Punctual	❏	❏	❏	❏	❏	❏	_____
Dependable and trustworthy	❏	❏	❏	❏	❏	❏	_____
Organizing skills	❏	❏	❏	❏	❏	❏	_____
Planning skills	❏	❏	❏	❏	❏	❏	_____
Accurate Self Assessment							
Ability to accept instruction	❏	❏	❏	❏	❏	❏	_____
Willingness to seek assistance	❏	❏	❏	❏	❏	❏	_____
Self-Control							
Ability to work independently	❏	❏	❏	❏	❏	❏	_____
Adherence to company rules/norms	❏	❏	❏	❏	❏	❏	_____
Spontaneity							
Works enthusiastically	❏	❏	❏	❏	❏	❏	_____
Motivated	❏	❏	❏	❏	❏	❏	_____
Stamina and Adaptability							
Adaptable/Flexible	❏	❏	❏	❏	❏	❏	_____
Maintains high performance and focus	❏	❏	❏	❏	❏	❏	_____
Entrepreneurial Abilities							
Efficiency Orientation							
Creative/Innovative	❏	❏	❏	❏	❏	❏	_____
Proactivity							
Ability to make decisions	❏	❏	❏	❏	❏	❏	_____
Ability to take calculated risks	❏	❏	❏	❏	❏	❏	_____
Accepts responsibility for actions	❏	❏	❏	❏	❏	❏	_____
Takes initiative	❏	❏	❏	❏	❏	❏	_____
Overall effectiveness of work performance	❏	❏	❏	❏	❏	❏	_____

Please write a brief summary of your evaluation of this candidate including anything not explicitly included above, areas needing improvement, and any helpful recommendations for this candidate regarding further study or skill development. Reinforcement of recommendations from the candidate's last performance review would be appropriate. Attach additional sheet for further comments if needed.

_____

_____

_____

_____

_____

Can this candidate benefit from pursuing an MBA degree like ours which focuses on explicit job performance and effectiveness determinants like those listed above?   ❏ Yes   ❏ No

Are you willing to work with this candidate and the university to help the candidate develop the competencies and skills you believe are important for him or her to develop?   ❏ Yes   ❏ No

Signature: _____

Appendix C

Post-MBA Managerial Competency Assessment Form[a]

Supervisor Evaluation of MBA Candidate and Personal Competency Assessment

Student/Employee's Name _____ Date _____

Company Name _____ Manager/Supervisor _____

When your employee applied for admission to the university's MBA Program, we requested his/her manager/supervisor to complete a preliminary Personal Competency Assessment form as part of the application process.

As the current manager/supervisor of the above-named student/employee, you are submitting this post evaluation to the Chair of the Graduate Business Program to help us evaluate the student's development the university's MBA Program. We believe that the development of significant managerial competencies like those listed below is an important outcome from an MBA Program. We would value your assessment of how well we have assisted your employee in doing so.

Please evaluate your employee by placing a "check" in the box that most closely describes his/her current performance or effectiveness.

Focal Competencies in the MBA Program	Poor 1	Fair 2	Good 3	Very Good 4	Excellent 5	Not Applicable or Not Observed	Comments
Effective Communication							
Written communication skills	❑	❑	❑	❑	❑	❑	_____
Verbal communication skills	❑	❑	❑	❑	❑	❑	_____
Problem-Solving							
Conceptual (big picture) thinking	❑	❑	❑	❑	❑	❑	_____
Logical (cause-effect) thinking	❑	❑	❑	❑	❑	❑	_____
Ability to use theories and concepts	❑	❑	❑	❑	❑	❑	_____
Specialized Knowledge							
Computing skills	❑	❑	❑	❑	❑	❑	_____
Financial analysis skills	❑	❑	❑	❑	❑	❑	_____
Resource management skills	❑	❑	❑	❑	❑	❑	_____
Leadership							
Managing group process	❑	❑	❑	❑	❑	❑	_____
Team building skills	❑	❑	❑	❑	❑	❑	_____

Other Competencies that the candidate may wish to develop

	Poor 1	Fair 2	Good 3	Very Good 4	Excellent 5	Not Applicable or Not Observed	Comments
Organizational and Personnel Management							
Use of Socialized Power							
Ability to work as member of a team	❑	❑	❑	❑	❑	❑	_____
Open-minded / willing to learn	❑	❑	❑	❑	❑	❑	_____
Conflict resolution skills	❑	❑	❑	❑	❑	❑	_____
Customer service skills	❑	❑	❑	❑	❑	❑	_____
Structured Networking							
Concern with Impact							
Appropriate personal appearance/behavior	❑	❑	❑	❑	❑	❑	_____
Concern with Close Relationships							
Ability to work with staff	❑	❑	❑	❑	❑	❑	_____
Ability to work with clients	❑	❑	❑	❑	❑	❑	_____

Over ➡

[a] Identifying factors have been removed from this form. All raters completed this version of the post-MBA form.

Other Competencies *(continued)*	Poor 1	Fair 2	Good 3	Very Good 4	Excellent 5	Not Applicable or Not Observed	Comments
Personal Growth							
Efficiency Orientation							
Punctual	❑	❑	❑	❑	❑	❑	_____
Dependable and trustworthy	❑	❑	❑	❑	❑	❑	_____
Organizing skills	❑	❑	❑	❑	❑	❑	_____
Planning skills	❑	❑	❑	❑	❑	❑	_____
Accurate Self Assessment							
Ability to accept instruction	❑	❑	❑	❑	❑	❑	_____
Willingness to seek assistance	❑	❑	❑	❑	❑	❑	_____
Self-Control							
Ability to work independently	❑	❑	❑	❑	❑	❑	_____
Adherence to company rules/norms	❑	❑	❑	❑	❑	❑	_____
Spontaneity							
Works enthusiastically	❑	❑	❑	❑	❑	❑	_____
Motivated	❑	❑	❑	❑	❑	❑	_____
Stamina and Adaptability							
Adaptable/Flexible	❑	❑	❑	❑	❑	❑	_____
Maintains high performance and focus	❑	❑	❑	❑	❑	❑	_____
Entrepreneurial Abilities							
Efficiency Orientation							
Creative/Innovative	❑	❑	❑	❑	❑	❑	_____
Proactivity							
Ability to make decisions	❑	❑	❑	❑	❑	❑	_____
Ability to take calculated risks	❑	❑	❑	❑	❑	❑	_____
Accepts responsibility for actions	❑	❑	❑	❑	❑	❑	_____
Takes initiative	❑	❑	❑	❑	❑	❑	_____
Overall effectiveness of work performance	❑	❑	❑	❑	❑	❑	_____

Please write a brief summary of your evaluation of this employee including anything not explicitly included above, areas the employee made improvement, and any helpful recommendations for us. Reinforcement of recommendations from the candidate's last performance review would be appropriate. Attach additional sheet for further comments if needed.

_____

_____

_____

_____

_____

Do you believe this employee benefited from an MBA degree that focused on explicit job performance and effectiveness determinants like those listed above?   ❑ Yes   ❑ No

A special thank you goes out to the manager/supervisor who took the time to complete this post evaluation form.

Signature: _____