



“A comparative model analysis of managerial competence of business school educated managers”

AUTHORS	Ahmed Shaikh Christo Bisschoff  https://orcid.org/0000-0001-6845-7355 Christoff Botha
ARTICLE INFO	Ahmed Shaikh, Christo Bisschoff and Christoff Botha (2017). A comparative model analysis of managerial competence of business school educated managers. <i>Problems and Perspectives in Management</i> , 15(3), 128-146. doi: 10.21511/ppm.15(3).2017.11
DOI	http://dx.doi.org/10.21511/ppm.15(3).2017.11
RELEASED ON	Tuesday, 19 September 2017
RECEIVED ON	Saturday, 21 January 2017
ACCEPTED ON	Tuesday, 11 July 2017
LICENSE	 This work is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License
JOURNAL	"Problems and Perspectives in Management"
ISSN PRINT	1727-7051
ISSN ONLINE	1810-5467
PUBLISHER	LLC “Consulting Publishing Company “Business Perspectives”
FOUNDER	LLC “Consulting Publishing Company “Business Perspectives”



NUMBER OF REFERENCES

28



NUMBER OF FIGURES

3



NUMBER OF TABLES

8

© The author(s) 2025. This publication is an open access article.



BUSINESS PERSPECTIVES



LLC "CPC "Business Perspectives"
Hryhorii Skovoroda lane, 10, Sumy,
40022, Ukraine

www.businessperspectives.org

Received on: 21st of January 2017

Accepted on: 11th of July 2017

© Ahmed Shaikh, Christo Bisschoff,
Christoff Botha, 2017

Ahmed Shaikh, Business and
Governance, North-West University,
and Regent Business School, Durban,
South Africa

Christo Bisschoff, NWU School of
Business and Governance, North-
West University, Potchefstroom,
South Africa.

Christoff Botha, NWU School of
Business and Governance, North-
West University, Potchefstroom,
South Africa.



This is an Open Access article,
distributed under the terms of the
[Creative Commons Attribution-Non-
Commercial 4.0 International license](https://creativecommons.org/licenses/by-nc/4.0/),
which permits re-use, distribution,
and reproduction, provided the
materials aren't used for commercial
purposes and the original work is
properly cited.

Ahmed Shaikh (South Africa), Christo Bisschoff (South Africa),
Christoff Botha (South Africa)

A COMPARATIVE MODEL ANALYSIS OF MANAGERIAL COMPETENCE OF BUSINESS SCHOOL EDUCATED MANAGERS

Abstract

This article compares an existing model to measure competence of managers educated within the business school environment to a similar model at another business school setting. The existing management model initially developed by Thekiso's is evaluated to determine if the model can be operationalised, hence can be regarded as valid, to apply to another business school's educated manager sample to measure their managerial competence. Resultantly, Thekiso's original model was applied to another similar sample at another business school educated manager population in KwaZulu-Natal. These respondents also studied towards a Master of Business Administration degree but their specific cultural, language and business school variables differed. The objective was then to validate the Thekiso model in different application settings. The results showed that the data were suitable to use to determine if the existing model can be used as it is to measure managerial competence. Also, the results indicated that Thekiso's existing model is not generic and cannot be operationalised as it is school-specific. The analysis showed that the measuring criteria developed by Thekiso are relevant but the specific factors identified differ in nature and number, hence altering the core of the measuring model itself. As a result, the article formulates an alternative model for use in KwaZulu-Natal to measure skills for managerial competence in the province. This research is of value to management, academia and researchers because it renders an alternative model to measure managerial competence whilst also warning against operationalization of any of the two models without further validation.

Keywords

management, skills, competence, MBA, model, factor

JEL Classification

M19

INTRODUCTION

This article investigates management competencies of business school educated managers and leaders. Building on research by Thekiso (2011) and Shaikh (2013), this study attempts to reflect on the ever-shifting sands of the competency requirements and the roles of managers and leaders in the context of business in the 21st century.

The focus of the study is to analyse and outline the key competencies required for a manager to be effective in different organisational settings. In addition, this study aims to develop a theoretical model to measure managerial competencies. In so doing, the following broad research questions are posed, in order to ground the study:

1. What are the demands on managers in the current dynamic and volatile business environment?

2. What are the key managerial skills and competencies that are required for managers to become effective in the workplace?
3. How can these skills and competencies be measured?
4. How could managerial competency measurement inform management development and career planning?

Reid Hoffman, founder of Paypal and LinkedIn, aptly describes, in an interview with the Harvard Business Review, the chaotic, sometimes gruelling path to high-growth, high impact entrepreneurial organisations as he argues the imperatives for modern organisations to blitzscale as a growth strategy (Sullivan, 2016, p. 45). Blitzscaling, according to Hoffman (2016, p. 46), can be described as the art and science of rapidly building out a company to serve a large and usually global market with the objective of becoming the first mover at scale. Sullivan (2016, p. 49) adds by putting forth a number of critical challenges facing managers in high impact Silicon Valley organisations. Fuzziness about roles and responsibilities, unhappiness about the lack of clearly defined portfolios from which to operate, managerially inefficient company structures and even team dysfunctionality are regarded as some of the key challenges facing managers in companies such as Google, Facebook, LinkedIn and PayPal (Hoffman, 2016, p. 50). This scenario aptly captures the era of rapid change, profound diversity and complexity in the workplace, hence the need for appropriate managerial talent as argued earlier in the century by Day, Harrison and Halpin (2009, p. 514). This is especially relevant since the modern era of rapid change, profound diversity, complexity in the workplace, and the need for managerial talent are increasingly evident as managerial competitive challenges in the modern business environment (Hoffman, 2016, p. 52).

Quality leadership is the hallmark of successful organizations. Some people have a natural talent for the role but good leadership can be learned through training, coaching and practice. The quality of the leadership which is in place through the ranks of an organization will in large part determine the success of that organization in the long term. It is essential therefore, that anyone who is entrusted with a position and responsibility for leading people fully understands and appreciates what this leadership role requires of them in practice (PWC, 2016a).

Six challenges modern leaders are facing, according to Gentry et al. (2015), are:

- **Developing Managerial Effectiveness.** The challenge of developing the relevant skills such as time management, prioritization, strategic thinking, decision-making, and getting up to speed with the job; to be more effective at work.
- **Inspiring Others.** The challenge of inspiring or motivating others to ensure they are satisfied with their jobs; how to motivate a workforce to work smarter.
- **Developing Employees.** The challenge of developing others, including topics around mentoring and coaching.
- **Leading a Team.** The challenge of team-building, team development, and team management; how to instil pride in a team or support the team, how to lead a big team, and what to do when taking over a new team.
- **Guiding Change.** The challenge of managing, mobilising, understanding, and leading change. How to mitigate change consequences, overcome resistance to change, and deal with employees' reaction to change.

- **Managing Internal Stakeholders and Politics.** The challenge of managing relationships, politics, and image. Gaining managerial support and managing up; getting buy-in from other departments, groups, or individuals.

Gentry et al. (2015) continue and state that in the world that is changing at an unprecedented pace, organisational transformation is crucial for survival, however, it comes more complex than ever to execute strategy successfully. This is all the more so since the leaders capable of such transformations are extremely in short supply. In this regard research by Harthill Consulting in 2015 reveals that less than 10% of leaders today have the right skills to lead successful transformational change. This may surprise many organisations, particularly those led by high-achieving operational managers with a track record to date of improving efficiency; however they lack transformational skills. Harthill Consulting (2015) further point out that their research showed that the attributes required to manage a transformation or instil change are not the same managerial or leadership competencies as those exhibited by leaders who cope well with day-to-day operational managerial issues, or even by those managers who excel in a crisis.

Presently, managers need to successfully adapt to changing environmental demands and business situations, manage multiple lateral relationships, set and implement agendas, and cope with stress and uncertainty (PWC, 2015). Foremost among the many drivers of modern business organisations are the twin imperatives of effectively utilising advanced information and communications technology (ICT) as well as leveraging competent human capital. The pressure to succeed in a hyper-competitive world; the challenges of dealing with globalisation and the race for scarce resources (human, financial, informational and raw materials); environmental considerations and unprecedented regulatory considerations have cumulatively forced business organisations to manage the human capital elements, in particular, judiciously. Additionally, the rapidity, scale and complexity of change in the workplace at late require that the very foundational principles for leadership and management have to be questioned and possibly, rethought in the competitive business environment (PWC, 2015 in support of Alfred, 2011, p. 103).

Modern global rapid changes affecting virtually every aspect of our life and work, organizational and business climate, require us to rethink the ways which organisations used until now for improving managerial issues (Bordeianu et al., 2014, p. 609). The 2008 economic crisis and its aftermath could be considered a hard lesson about what happens if organisations not apply their minds fully, proving that within the uncertain environment of a globalized economy some basic rules and mechanisms of traditional market economy no longer works. This, implicitly, shows that management does not have a “safety net” or a “panacea cure” to rely on during a globally extended economic downturn, being it in the local or international managerial sphere. Resultantly, even if just for this reason, management has need for competent leaders who are able to successfully deal with the unprecedented challenges facing people, organizations and human society today at whole (Sabina, Cristina, & Elena, 2014, p. 566).

Organisations spend significant time and resources in recruiting, training and retaining a qualified workforce. The key challenge of measuring and ensuring a competent cadre of managers and leaders though remains elusive for many (PWC, 2016b). Traditionally the Ohio-based management scientists Slochum, Susan and Hellriegel (2009, p. 4) (cited by Seely, 2015) stated that although knowledge, behaviours and attitudes are essential components of management competencies, managers need to effectively transfer this knowledge into managerial skills in order for them to become competent and efficient managers. Inversely, employee cost increases continue to assume a larger proportion of business expenditure; this means that if employee costs are not incurred productively, it could lead to a reduction in the return on this investment, which could in turn, lead to negative staff development strategies to as a means to improve return on investment and maximise shareholders wealth (Shepard, 2016). The increasing complexity of business and managerial projects and the ever increasing pace of change require organisations to seek business success by not only increasing personnel efficiency, no longer focusing only on hiring of talented personnel and not only have the personnel managed by a technical project

management of skilled managers. Modern organizations need management talent that has the ability to deal with ambiguity, can lead strategic initiatives that drive change in an organization and apply an array of managerial skills on high levels to remain competitive (Seely, 2015). Organizations need to lead and direct projects and programs - not just manage them. The well-rounded project manager not only has the technical project management skills, but also the strategic and business management skills, and leadership skills (PWC, 2014).

1. PROBLEM STATEMENT

The changing context for leadership is perhaps best framed within the dramatic aftermath of the global financial crises of 2008: Volatile financial markets, lingering high unemployment, widening debt crises in economies globally, and eroding consumer confidence combined to create what is widely being termed as the “new normal” (Alfred, 2011, p. 105).

The well-known maxim “in every cloud there is a silver lining” helps to explain the ongoing chaos in the global economic downturn. Opportunistic investors have used economic downturns as buying opportunities. Similarly, businesses have used the urgency that accompanies slumps to encourage innovation and organizational renewal. Universities, and Business Schools in particular, have experienced dramatic enrolment gains in periods of economic recession. Leaders and managers, in an era of rising demand and reduced resources, need to become more adept at ‘doing more with less’ (Alfred, 2011, pp. 106-107). Alfred continues to specify that managers will:

- Need to generate new sources of revenue to support growth, increase the capacity and productivity of staff, win the war for talent against fast-moving rivals and build organizational cultures that embrace innovation and change;
- Be challenged to develop new organizational designs to get in front of change, and they will need to think differently about organizational success; and that managers; and that they will be
- Required to innovate both in management and as organisations. Therefore, managers and leaders will be compelled to develop new skills and competencies in order to respond to adversity with creative solutions.

Herein lays the pivotal problem of human capital management for most organisations: to be able to scientifically measure and sensitively develop the skills and competencies required for managerial capability, competency and effectiveness within complex and demanding work settings. In other words, the challenge for organisations is to have the tools to measure, with a high degree of certainty, the skills resident in an existing or prospective manager, as well as to be able to more sensitively target the future management development needs of managers.

Despite the rapidly changing roles and competencies required for managerial effectiveness, there is no well-developed and empirically supported model to actually measure competencies for superior management performance in the contemporary business environment in South Africa, in particular, and Southern Africa at large.

Although Thekiso (2011) and Shaikh (2013) have done research in this area, their research needs to be refined and focused into a model that can meaningfully measure competencies of managers.

2. OBJECTIVES

The primary objective of this article is to develop or validate an existing theoretical model to measure skills for managerial competence.

This primary objective is achieved by addressing the following secondary objectives, namely to:

- Perform a theoretical study on existing model(s) to measure managerial competence.
- Evaluate the existing model(s) to determine if they are suitable for generic application to measure managerial competence in different application settings.

- Empirically compare and validate the measuring criteria and constructs to ensure that it measures the relevant managerial skill.
- Ensure that an adequate sample is employed in developing the model.
- Measure the reliability of the constructs.
- Determine the relative importance of each of the constructs in the theoretical model to measure the skills for managerial competency.

3. LITERATURE REVIEW: THE THEKISO MODELS

3.1. Questionnaire development

In his literature study, Thekiso (2011) drew and assimilated information from journal articles, research reports, textbooks and Internet searches covering relevant issues in management and management education, as well as its relevance to management competence. In this study, Thekiso developed a questionnaire based on the literature as measuring tool of managerial competence. Thekiso empirically validated the measuring criteria to measure managerial competence by means of exploratory factor analysis in an attempt to validate the criteria pertaining to each of his managerial competencies. In addition to Thekiso's validation, Shaikh (2013) also subjected the questionnaire to experts in order to ensure content and face validity.

The literature Thekiso consulted identified seven skills for managerial competence, namely: Self-awareness skills, Self-directed career planning skills, General integrative skills, Planning and control skills, Organising skills, Learning skills, and Change management skills. To measure these skills, Thekiso formulated, with the aid of literature, a total of 70 questions; 10 criteria for each managerial skill and he employed a 5-point Likert-type scale (ranging from totally disagree to totally agree) to measure these seven skills. Furthermore, 11 demographic questions were added to compile the demographic profile of the 395 respondents in his study.

The initial conceptual model to measure managerial skills for competence, developed by Thekiso is discussed below.

3.2. Thekiso's initial conceptual model to measure skills for managerial competence

The original model envisaged by Thekiso (2011) identified seven skills for managerial competence (as employed in the questionnaire and mentioned above). These skills were identified from a detailed literature review that formed the basis of his model for managerial competence. After the theoretical construction of the model, Thekiso empirically tested his hypothesised theoretical model by gathering data from a sample of 395 part-time Master of Business Administration (MBA) students from three business school campuses of the North-West University (Mafikeng, Potchefstroom and Vanderbijlpark). The importance of each managerial skill, its reliability and the interrelationships among the different skills for managerial competence, were measured. From the analyses, it was evident that all seven the skills for managerial competence were regarded as important skills in managerial competence (scoring in excess of 4.5 on the 5-point Likert scale).

Thekiso then attempted to empirically validate his model by subjecting the seven skills to individual exploratory factor analysis, aiming to prove that the 10 measuring criteria selected from the literature indeed do measure each of the managerial skills. In addition, the variance explained would also render an indication of how well these 10 criteria actually do measure each managerial skill. The original Thekiso model is represented in Figure 1 below.

The results indicated that the Thekiso model, although it seems to consist of seven managerial competence skills, actually breaks up into more sub-skills. This indicated that the seven skills are not the only required skills being measured as postulated by the theory. Also, these skills show relatively poor variance explained; all failed to reach the so-called "good fit of the data" of 60% variance explained (Field, 2009, p. 672).

Source: Thekiso (2011).

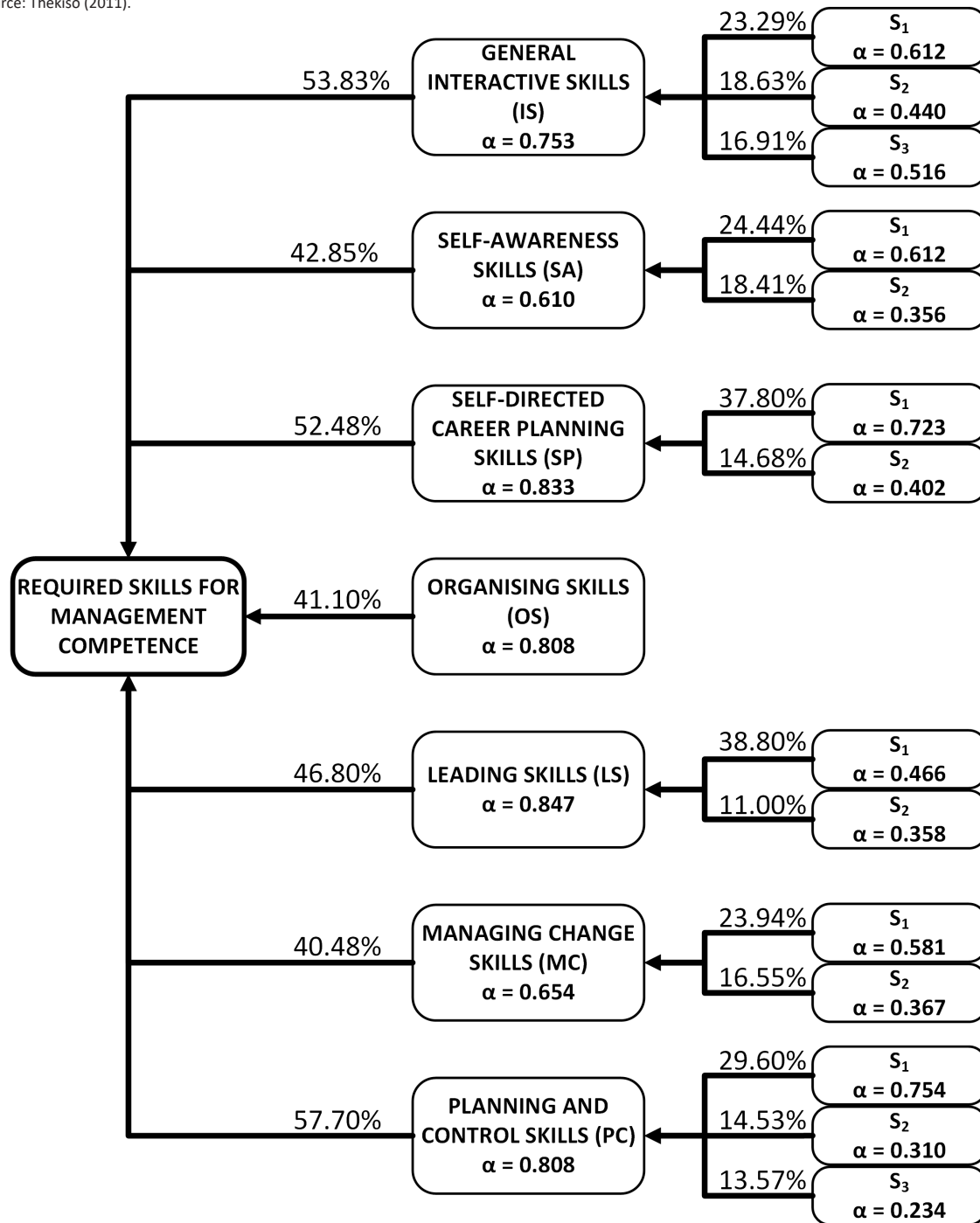


Figure 1. A model to measure skills for managerial competence

The results also indicated that there were a number of unreliable factors. Only two skills exceeded a Cronbach Alpha coefficient of 0.70 (excellent); three skills exceeded 0.58 (minimum reliability level for the study), while two skills were unreliable (falling below the 0.58 lower margin of reliability) (Cortina, 1993, p. 98 as cited by Field, 2009, p. 668). These two skills (Leading skills and

Organising skills), having being found to be unreliable in Thekiso's study, are less likely to represent themselves in repetitive studies of a similar nature, signifying a warning in possible future applications of the model in measuring managerial competence. In addition, low reliability coefficients were recorded and a number of questions also had to be discarded. The unsatisfactory reliability coef-

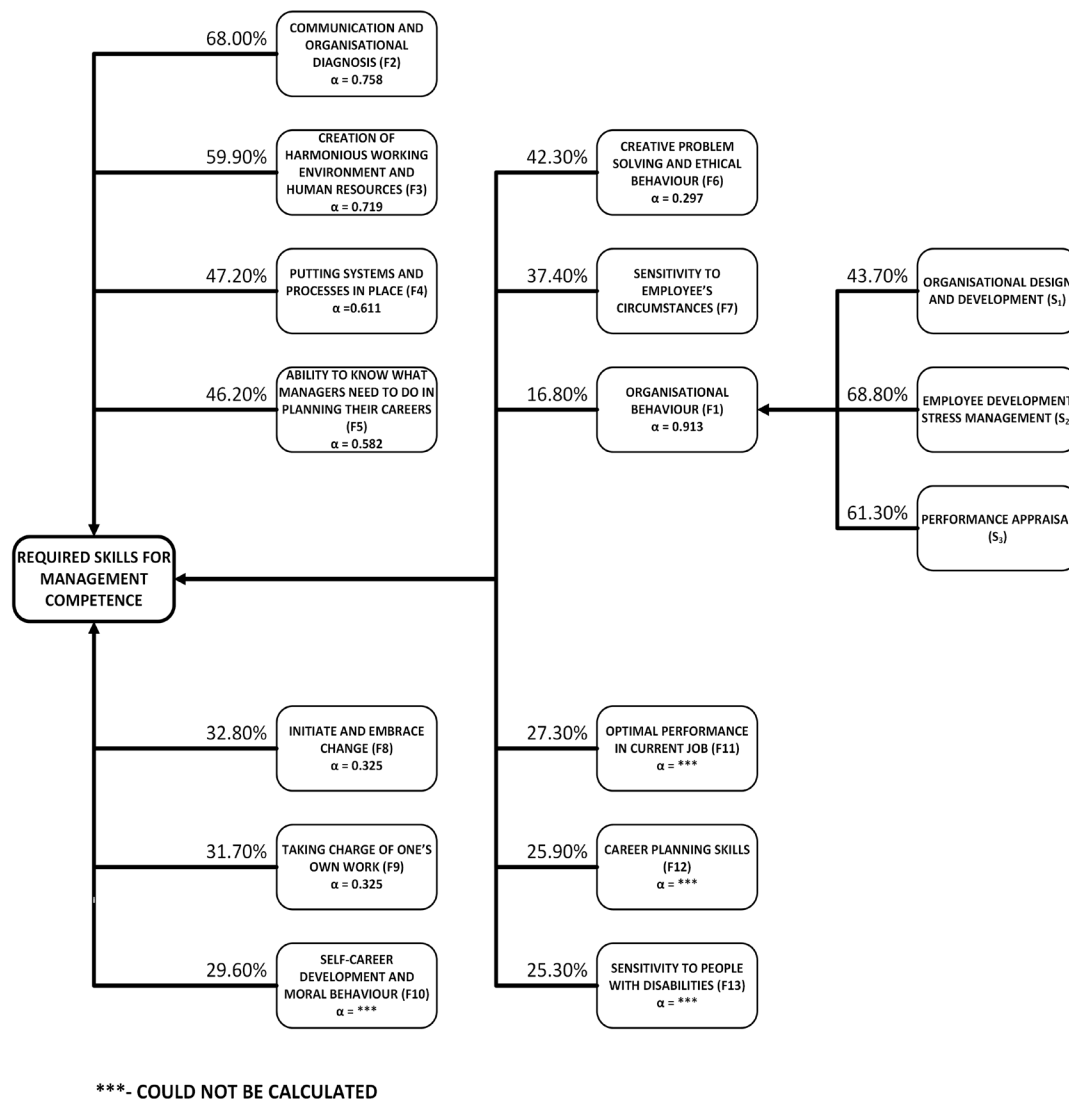


Figure 2. A revised model to measure skills for managerial competence

ficients forced Thekiso (2011, p. 174) to conclude that the conceptual model has failed theoretically.

As a result, Thekiso's study explored another avenue of research, namely to attempt to identify the underlying constructs of managerial competence by means of exploratory factor analysis.

3.3. Thekiso's revised conceptual model to measure skills for managerial competence

Thekiso's alternative approach was to subject the data to suitability testing. Firstly, he ensured sample adequacy (using the Kaiser, Meyer & Olkin

test of sample adequacy) and, secondly, he tested if sphericity between the variables do not exist (using Bartlett's test). After successful results, Thekiso proceeded to subject the data to exploratory factor analysis. The results of the analysis are reflected in Figure 2 below.

The model illustrates the factors, sub-factors of Factor 1, and their respective reliability coefficients.

Factor analysis

The factor analysis identified thirteen factors. This meant that there were thirteen underlying dimensions (and not seven as originally theorised) that were identified as separate factors that re-

Table 1. Thekiso's factors of managerial competence

Factor & Sub-factor	Name of factor	Variance explained	Cronbach alpha
F1	Organisational behaviour	16.8%	0.913
SF 1	Organisational design & development	43.70%	***
SF 2	Employee development stress management	6.88%	***
SF 3	Performance appraisal	6.13%	***
F2	Communication and Organisational diagnosis	6.80%	0.758
F3	Creation of harmonious working environment & Human resources	5.99%	0.719
F4	Putting systems and processes in place	4.72%	0.611
F5	Ability to know what managers need to do in planning their careers	4.62%	0.582
F6	Creative problem solving & ethical behaviour	4.23%	0.297
F7	Sensitivity to employee's circumstances	3.74%	***
F8	Initiate and embrace change	3.28%	0.325
F9	Taking charge of one's own work	3.17%	0.325
F10	Self-career development & moral behaviour	2.96%	***
F11	Optimal performance in current job	2.73%	***
F12	Career planning skills	2.59%	***
F13	Sensitivity to people with disabilities	2.53%	***

Note: F = Factor; SF = Sub-factor; *** not calculated due to limited criteria.

late to managerial skills. In addition, the analysis also showed that the most important factor (Organisational behaviour) in fact consists of three sub-factors. The thirteen factors explained a favourable cumulative variance of 64.10%, which signified a "good fit to the data" according to Field (2009, p. 668).

Using Cronbach's alpha coefficients for each of the thirteen factors, Factors 4 and 5 returned coefficients ranging above 0.58 but lower than 0.70, signifying reliability, while factors 6, 8 and 9 had unreliable coefficients below 0.58. Factors 7, 10, 11, 12 and 13 consist of single statements and the reliability coefficients could not be calculated.

The thirteen factors, their variance explained, and their reliability are noted in Table 1 below.

Reliability

From the analysis it seemed that Thekiso's second attempt to identify the skills for managerial competence succeeded. Not only did he successfully explain the required variance, but also succeeded to extract the five more important factors reliably. Factors 1, 2 and 3 exceeded the minimum higher level Alpha coefficients of 0.70, and Factors 4 and 5 exceed the lower Alpha coefficient set by Cortina (1993, p. 98) (in by Field, 2009, p. 66) at 0.57. Only Factors 6, 7 and 8 did not return satisfactory reliability coefficients.

Based on the second model which showed more promise, this study employed the second Thekiso model to measure the skills for managerial competence in KwaZulu-Natal and Gauteng amongst business school educated managers.

4. RESEARCH METHODOLOGY

The questionnaire developed by Thekiso (2011) was employed to gather data to measure the skills for managerial competence. The pre-coding, as developed by Thekiso (2011), on all the questions of the seven management skills were retained. The population was all MBA students in the KwaZulu-Natal and Gauteng provinces studying at the Management College of Southern Africa (MANCOSA) towards an MBA programme. Although MANCOSA offers the MBA in more than ten different locations in Southern Africa, the two largest study centres (Durban in the KwaZulu-Natal province and Johannesburg in the Gauteng province) were selected to gather data from. The sample is, therefore, a non-probability, convenience sample. The data was gathered by distributing the questionnaires during MBA lecture sessions in Durban and Johannesburg. Students not attending these sessions due to work-related or other reasons, received the questionnaire electronically by means of Survey Monkey. Participation in the study was voluntary and anonymous. Table 2 summarises the response rates and number of respondents.

Table 2. Data collection

Campus	Questionnaires Distributed	Questionnaires Received	Response Rate (%)
Durban	142	128	90.14
Johannesburg	167	154	92.22
Survey Monkey	200	66	33.33
TOTAL	509	348	68.47

A favourable average response rate of 68.47% was achieved because the researcher personally performed the distribution and collection of the questionnaires in both Durban and Johannesburg campuses. Noteworthy is the lower response rate from the electronically distributed questionnaires (33.33%).

Preventative measures to attempt to minimise the problems normally associated with self-administered questionnaires were followed in this study. This was achieved by ensuring that lecturers and administrators acted as facilitators, largely to clarify questions when questionnaires were administered in class.

The data collected was statistically analysed using the specialised software Statistical Package for Social Sciences (SPSS) (version 22 of 2014). The suitability of the data for multivariate analysis was assessed by means of the Bartlett's test of sphericity, while the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was used to statistically determine if the sample was adequate. Exploratory Factor Analysis (EFA) was used to identify the underlying constructs and to determine the relative importance of each construct. Reliability was determined by means of the Cronbach alpha coefficient.

5. RESULTS

5.1. Factor identification

The data were subjected to exploratory factor analysis to identify the underlying constructs. The aim was to extract and compare the factors with that identified by Thekiso. If these factors compared favourably, it would validate the findings as published by Thekiso in his second model. In fac-

tor analysis, the sample adequacy and sphericity needs to be confirmed to ensure that the data are suitable for analysis. The results appear in Table 3.

Table 3. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.914
Bartlett's Test of Sphericity	Approx. Chi-Square	8797.589
	df	2211
	Sig.	0.000

From the table it is clear that the sample adequacy is excellent (0.914) because the KMO value exceeds the required 0.70 with ease. In addition, the sphericity is below the margin of 0.05. The data is thus confidently subjected to exploratory factor analysis (Field, 2009, p. 666). Only factor loadings of 0.4 and higher were retained in the analysis.

The factor analysis did not identify similar factors to that of Thekiso. This means that the Thekiso model is not generalistic in nature, and cannot be operationalised to all managers. Also, this means that to measure the skills for managerial competence for the MANCOSA educated managers, a new factor model is required. This model is developed from the results obtained from the factor analysis.

The analysis identified two factors explaining 37.83% of the variance (not achieving the desired 60% variance explained). Closer inspection, however, reveals that factor 1 explains 31.73% and consists of the majority of measuring criteria. Factor 2 explains only 6.09% of the variance. This means that Factor 1 is more important, and that it probably consists of sub-factors. Table 4 shows the variance and cumulative variance explained by the factors.

Table 4. Total variance explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	21.264	31.737	31.737	21.264	31.737	31.737
2	4.080	6.089	37.826	4.080	6.089	37.826

Factor 1 and its sub-factors

The results suggest that Factor 1 needs to be explored further to ascertain if it consists of sub-factors. The criteria pertaining to Factor 1 were isolated and analysed further. As expected, Factor 1 identified a further seven sub-factors. The factor's variance explained appears in Table 5 while Table 6 shows the Varimax rotated factor matrix of the seven sub-factors.

The sub-factors explain a total of 59.36% of the variance explained by Factor 1. Once again the core of Factor 1 is embedded within the first sub-factor identified that explains 20.61% of the total 50.36% total variance. The factor table below shows the criteria and their factor loadings. Criteria possessing factor loadings below 0.40 were discarded. Strong dual-loading criteria were also eliminated from the factors (Bisschoff & Moolla, 2015, p. 100).

Table 5. Total variance explained by factors

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Var	Cum %	Total	% of Var	Cum %	Total	% of Var	Cum %
1	17.099	40.711	40.711	17.099	40.711	40.711	8.657	20.613	20.613
2	1.846	4.394	45.106	1.846	4.394	45.106	4.099	9.760	30.372
3	1.416	3.372	48.478	1.416	3.372	48.478	2.730	6.500	36.872
4	1.324	3.153	51.630	1.324	3.153	51.630	2.578	6.138	43.010
5	1.152	2.742	54.372	1.152	2.742	54.372	2.553	6.079	49.089
6	1.072	2.553	56.925	1.072	2.553	56.925	2.355	5.607	54.696
7	1.025	2.439	59.365	1.025	2.439	59.365	1.961	4.669	59.365

Table 6. Rotated Component Matrix: Sub-factors extracted from Factor 1

Criteria*	Component						
	1	2	3	4	5	6	7
PC 3	.766						
LS 2	.688						
OC 3	.655						
PC 5	.652						
OC 8	.633						
LS 5	.631						
IS 1	.609						
PC 10	.608						
LS 4	.573						
OC 9	.563						
IS 8	.551						

Table 6 (cont). Rotated Component Matrix: Sub-factors extracted from Factor 1

Criteria*	Component						
	1	2	3	4	5	6	7
SP 1	.538						
SP 5	.519						
LS 3	.516						
SA 2	.511						
LS 8	.508						
SP 10	.492						
IS 10	.486						
LS 7	.483						
PC 2	.483						
OC 10	.440						
OC 5	.415						
MC 9		.643					
OC 6		.639					
LS 9		.587					
PC 9		.583					
PC 6		.467					
LS 10			.688				
SA 8			.455				
SA 6			.440				
MC 2				.693			
SA 5				.478			
SP 2				.467			
SA 4					.738		
IS 4					.601		
OC 7					.437		
SP 4						.660	
SP 3						.617	
LS 6							.615
SP 8							.542

Note: * See Appendix A for criteria definitions. Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. a. Rotation converged in 22 iterations.

Factor 2

Factor 2 consists of four criteria and explains 6.09% of the variance. These criteria pertain to Ethical skills and external influences, hence the factor was labelled as such.

The different factors and sub-factors were all labelled according to the criteria loading onto them. The dominant Factor 1 was labelled Managerial skills, while each one of the sub-factors was also labelled accordingly to the criteria. The names of the factors and sub-factors, and their respective reliability coefficients appear in the table below.

Table 7. Rotated Component Matrix: Sub-factors extracted from Factor 2

Criteria*	Component
	1
IS 6	.687
IS 7	.658
SP 7	.561
MC 6	.537

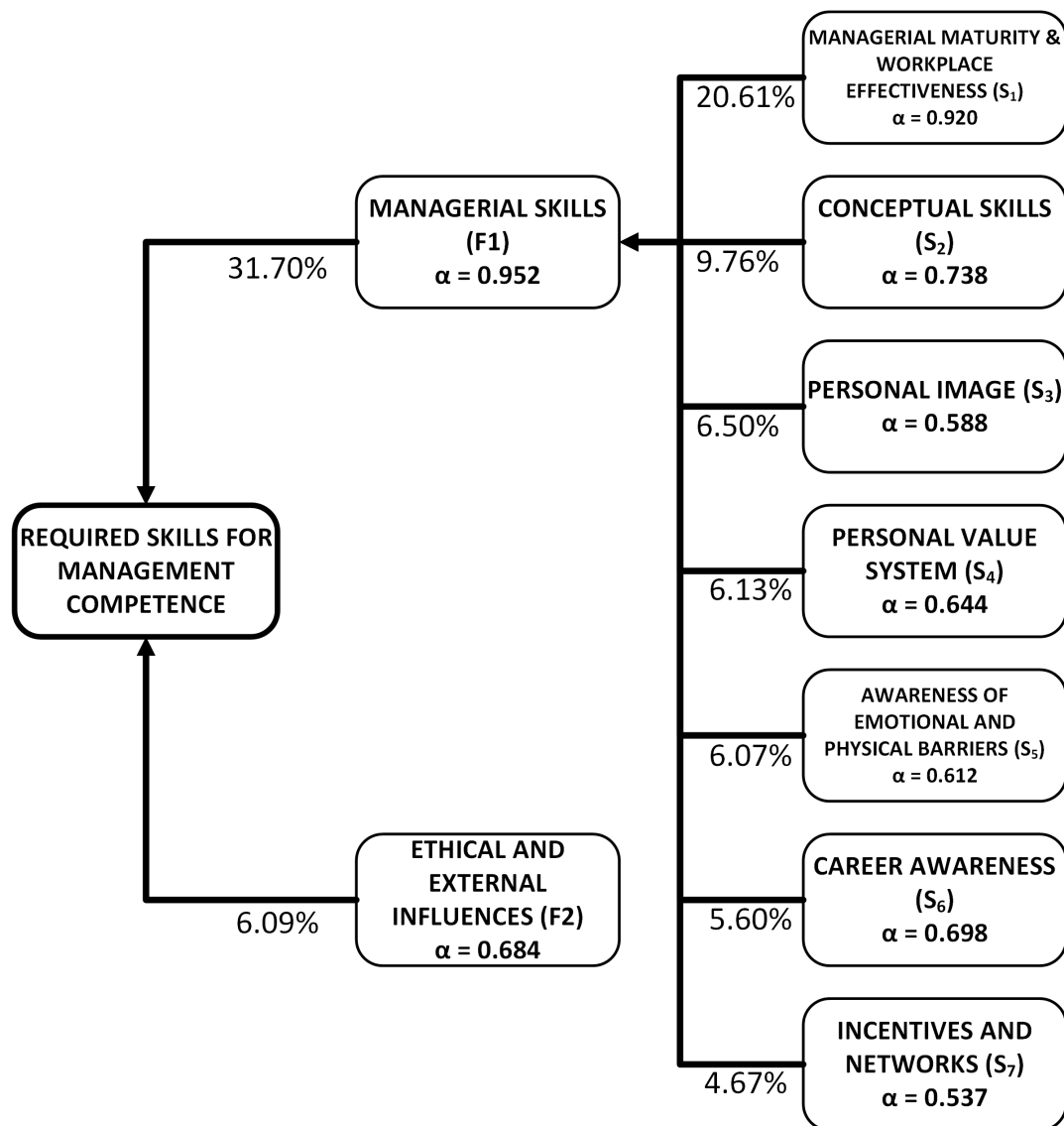
Note: * See Appendix A for criteria definitions. Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. a. Rotation converged in 12 iterations.

Table 8. Names and the reliability coefficients of the factors

Factors	Name of factors	Cronbach alpha
Factor 1	Managerial skills	0.952
Sub-factor 1	Managerial maturity & workplace effectiveness	0.920
Sub-factor 2	Conceptual skills	0.738
Sub-factor 3	Personal image	0.588
Sub-factor 4	Personal value system	0.644
Sub-factor 5	Awareness of emotional & physical barriers	0.612
Sub-factor 6	Career awareness	0.698
Sub-factor 7	Incentives & networks	0.537
Factor 2	Ethical and external influences	0.684

From the table above it is clear that the factors have satisfactory reliability coefficients. Only Sub-factor 7 shows low reliability with its coefficient below the secondary margin of 0.57. It is also evi-

dent that the more important factors (according to variance explained), namely Factor 1 and the sub-factors 1 and 2 have high reliability coefficients exceeding 0.70, while the other Sub-factors and

**Figure 3.** A model to measure skills for managerial competence at Mancosa

Factor 2 exceeds the 0.58 secondary margin with ease. The results are displayed in model format in Figure 3.

The model represents the results of the study to measure the skills for managerial competence of MBA managers educated by MANCOSA at their KwaZulu-Natal and Gauteng campuses. The model developed from this data differs significantly, particularly in the factor sub-structure, from that of Thekiso's (2011) initial as well as his second attempt models. This means that in order to measure skills for managerial competence at other business models, the concept of Thekiso to develop a model that can measure the skills for managerial competence needs to be re-opened and further analysed to determine if a generic model could be developed. At present this research has indicated that the existing model is not capable to do so.

6. DISCUSSION

In an era of profound complexity and ambiguity in the workplace, organizations place new and increasing demands on managers to develop new competencies in order to drive business success and manage rapidly changing organisational contexts. Effective and competent managers have thus become the mainstay for organisational renewal and realignment of business strategies for greater relevance in hyper-competitive environments. Managers have to generate new sources of revenue to fuel growth, continually increase the productivity of staff and develop innovative organisational cultures in order to proactively respond to adverse business conditions and competitive challenges. Amongst an array of possible interventions, organisations can meaningfully achieve this by ensuring a well-trained management pool through effective management development and training. The main theme of this research, measuring managerial competencies for effective managerial performance is located in this context.

While McClelland (1973), according to Dubois and Duquesne (1993:38), is credited with initiating the idea of competency frameworks and introducing it into human resource literature, Boyatzis (1982) is credited with popularizing the term in his book "The Competent Manager". Resultantly,

in the last three decades, researchers began looking at the identification of core competencies of managers and the development of models to measure managerial skills for managers across a range of sectors. According to Quin (2004), effective managers are those who have the potential to play multiple and even contradictory leadership roles; and those managers who are effective in all roles are 'master managers'. This mastery in managerial performance is highlighted by the seminal work of Quin and Rohrbaugh (1983) (as cited by Scott et al., 2003) where they presented eight managerial roles and 24 competencies based on their research on The Competing Values Framework. According to this framework, the following eight roles are key to developing master managers: mentor, facilitator, monitor, coordinator, director, producer, broker and innovator. In another study by Govender and Parumasur (2010), managers at a public sector organization in the city of Durban in KwaZulu-Natal (South Africa) were assessed for the extent to which they possess these eight managerial competencies needed for effective management. Govender and Parumasur (2010) also investigated the extent to which these eight critical managerial competencies are influenced by demographical variables such as managerial level, age, race, tenure and gender. Their findings suggest that managers varying in the demographical variables do differ significantly in the extent to which they possess and display various managerial competencies. The results indicated that senior level managers possess a significantly higher level of 'director competencies' than their middle and lower level management colleagues. This supports views by Smale and Frisby (1990) in the late 80's who noted that differences between perceived proficiency in several managerial competency areas among employees from different levels of management do exist. McGregor and Tweed (2001) also noted significant differences between male and female managers in relation to specific managerial competencies (an issue neither Thekiso nor Shaikh specifically explored). It is noteworthy that managerial competence gender differences are another similarity in the findings of Govender and Parumasur (2010).

More recently, a fundamental study by Shavelson (2013) presents an approach to measure managerial competence itself, and to statistically model the reliability and validity of scores produced in

competency measurements. Shavelson (2013) argues that a construct of competence, "...is an idea, a construction created by societies; and therefore it is not directly observable". Instead, it is inferred from observable performance on a set of tasks sampled from a domain of interest, such as a job or an educational discipline. Thus, he argues, it requires generalisability in theory, which can be used to evaluate the quality of competence measurements; supporting the very nature of latent variables as competency drivers.

Whilst a number of researchers (Wigdor & Green, 1991; Weinert, Cudney, & Spring, 2008; Alexander & Al-Moaibed, 2013; Thekiso, 2011; Moaibed, 2013; Shaikh, 2013) have suggested competency models and frameworks for managers in a wide range of jobs and sectors, Shavelson (2013) suggests that competency measurements should meet certain criteria:

1. Tap into complex physical and/ or intellectual skills and...
2. Produce an observable performance using a common...
3. Standardised set of tasks with...
4. High fidelity to the performances observed in 'real-world' situations from which inferences of competence can be drawn, with scores reflecting...
5. The level of performance on tasks in which...
6. Improvement can be made through deliberate practice of...

Shavelson's research (2013) therefore attempts to develop a centre of gravity around which new advances in measurement methods and theories of competence could be grounded. His key idea is to

establish if one can validly and reliably interpret the presence or absence of competence in performance measurement models, based on a standard of performance above which a person is judged to be competent or not.

The methodology of this study compares favourably with a similar study undertaken at a business school in Saudi Arabia, which sought to measure managerial competencies for students studying towards a management qualification (Alexander & Al-Moaibed, 2013). A self-assessment questionnaire was designed and administered to management education students that listed a number of characteristics that are representative of the core dimensions of five basic managerial competencies gleaned from a literature review. These five basic managerial competencies are: Communication Competency, Planning and Administration Competency, Teamwork Competency, Multicultural Competency and Self-Management Competency. In this study the respondents, who were students, indicated above average scores on four of the five dimensions. The highest scores were obtained for the Self-Management Competency. It is interesting to note that this latent variable also (similar to the findings of Thekiso & Shaikh) further divided into sub-variables (or sub-factors). In total Self-Management Competency included four underlying sub-factors namely: Integrity and ethical conduct, Personal drive and motivation, Balancing work and life issues and Self-awareness. This indicates that the existence of sub-factors within latent variables, also in managerial studies, are common, and yields support to the statistical techniques to identify these sub-factors, supporting the use of exploratory factor analysis.

CONCLUSION

The results and the outcomes of this study are significant in that it relates to a number of key points of departure with the Thekiso initial and the revised models. These points of departure, in the main, are:

1. Thekiso's initial conceptual model failed in this particular application setting to validate itself as a reliable conceptual model to measure skills for managerial competencies.
2. Thekiso's study was conducted in a public university business school setting. This could imply that the profile of MBA students in Thekiso's sample may differ from that of this study.

3. As a corollary to Point 2 above, the profile of MBA students, in a privately-owned business school, could differ equally significantly from that of a public university business school; thereby delivering differing results.
4. The empirical results of both Thekiso's initial and revised models show that neither of these conceptual models has been validated as effective models in measuring managerial competence of business school educated managers.
5. Thekiso's revised model found there were a number of sub-factors for some managerial skills that were not foreseen in his initial model. This sub-factor design has also focussed in Shaikh's (2013) research as well as in this study. In support of similar findings by other managerial behaviour researchers (Alexander & Al-Moaibed, 2013; Bisschoff & Moolla, 2015 and others), it can be concluded that further latent variables (or sub-factors) could be expected as drivers in managerial behaviour research.

The objective of this study was to determine if Thekiso's model(s) could be operationalised and used to measure the skills for managerial competence among managers studying at a business school in South Africa. The unambiguous finding is that the Thekiso model is not fit to do so. The model seems to be specific to its sample. This is statistically confirmed by the many factors possessing low reliability coefficients. The second attempt to develop a revised model also did not show promise towards generalisation and operationalisation of the model either. The fact that this research rendered different results and factors also indicates that the revised model did not succeed in its initial aims to become a generalised model for use in different application settings. The model, however, did render a satisfactory analysis of its specific application at a public university's business school, and went a long way to measure the skills for managerial competencies in that specific application setting (explain a cumulative variance of 69.56%).

This study indicated that even a model to measure skills for managerial competence is still not achieved in a generalised application setting. Although the model shows good reliability, there is a problem with its low total variance explained (37.82%). This means that the model does not sufficiently measure the skills for managerial competence with the measuring criteria employed. As a result, it would seem that the questionnaire with its seven skills for managerial competency is not succeeding to efficiently measure the managerial skills. This means that further research should be aimed at the questionnaire and its measuring criteria. The results obtained by Thekiso, and also in this study, have already discarded a number of measuring criteria and have also identified other criteria to be important ones to retain in future research on skills for managerial competence.

The results from this study are satisfactory in that it goes beyond subjecting managers to existing generic managerial competency frameworks and attempts to build a new model to measure managerial competency of business school educated managers, based on empirical data. Although far from being a generic model that can applied in different settings, it does provide a clear scientific base from which further development and refinement can take place.

REFERENCES

1. Alexander, A., & Al-Moaibed, F. A. (2013). Measuring Managerial Competencies in Management Program. *Islamic Management and Business*, 5(11), 138-145.
2. Alfred, R. L. (2011). The future of institutional effectiveness. *New Directions for Community Colleges*, 153, 103-113.
3. Bisschoff, C. A., & Thekiso, T. A. (2013). A theoretical model to measure skills for managerial competence of South African managers. *Paper delivered at the 7th International Business Conference, Mahé, Seychelles, 18-22 Sep.*
4. Bordeianu, O., Hapenciuc, C. V., Bejinaru, R., & Burciu, A. (2014). Dimensions of the learning organization within pharmaceutical companies in Romania. *Paper delivered at the 8th International Management Conference: Management challenges for sustainable development, Bucharest, Romania, 6-7 Nov*, 613-619. Retrieved from <http://conferinta.management.ase.ro/archives/2014/pdf/60.pdf>

5. Boyatzis, R. E. (1982). *The Competent Manager: A model for effective performance*. New York, NY: Wiley.
6. Day, D. V., Harrison, M. M., & Halpin, S. M. (2009). Educating for a peaceful world. *American Psychologist*, 48(5), 510-517.
7. Dragoni, L., Tesluk, P. E., Russell, J.E.A., & Oh, I. S. (2009). Understanding managerial development: Integrating developmental assignments, learning orientation, and access to developmental opportunities in predicting managerial competencies. *Academy of Management Journal*, 52, 731-743.
8. Dubois, B., & Duquesne, P. (1993). The market for luxury goods: Income versus culture. *European Journal of Marketing*, 27(1), 35-44.
9. Field, A. P. (2009). *Discovering statistics using SPSS*. 3rd ed. London: Sage.
10. Gentry, W. A., Eckert, R., Stawiski, S. A., & Zhao, S. (2015). The challenges leaders face around the world more similar than different. Centre for Creative Leadership. Retrieved from <http://insights.ccl.org/wp-content/uploads/2015/04/ChallengesLeadersFace.pdf>
11. Govender, P., & Parumasur, S. B. (2010). Evaluating the roles and competencies that are critical considerations for management development. *SA Journal of Industrial Psychology*, 36(1), 1-11.
12. Harthill Consulting. (2015). The hidden talent: 10 ways to identify and retain transformational leaders. Retrieved from <http://www.pwc.co.uk/services/human-resource-services/human-resource-consulting/under-your-nose-ten-ways-to-identify-and-retain-transformation-leaders.html>
13. Hoffman, R. (2016). Interview: Paypal and LinkedIn. Boston, MA: Harvard Business School.
14. McGregor, J., & Tweed, D. (2001). Gender and managerial competence: Support for theories of androgyny? *Women in Management Review*, 16(6), 279-287.
15. Moolla, A. I., & Bisschoff, C. A. (2015). A simplified model to measure brand loyalty of fast-moving consumer goods. *Tydskrif vir Geesteswetenskappe*, 55(4), 652-664.
16. Price Cooper Waterhouse. (2014). Talent management: Powering strategic initiatives in the Project Management Institute. Retrieved from <https://www.pwc.com/us/en/people-management/publications/assets/talent-managment-powering-strategic-initiatives-in-the-pmo.pdf>
17. Price Cooper Waterhouse. (2016a). The hidden talent: 10 ways to identify and retain transformational leaders. Retrieved from <http://www.pwc.co.uk/services/human-resource-services/human-resource-consulting/under-your-nose-ten-ways-to-identify-and-retain-transformation-leaders.html>
18. Price Cooper Waterhouse. (2016b). Leadership. Retrieved from <http://www.pwc.rs/en/pwc-s-academy-home/training-courses/personal-effectiveness-skills/management-skills/leadership.html>
19. PWC See PriceCooperWaterhouse.
20. Quin, R. E. (2004). *Building the bridge as you walk on it*. San Francisco, CA: Jossey-Bass.
21. Sabina, I., Cristina, S., & Elena, F. (2014). Leadership challenges of today's managers: overview of approaches and a study in Romania. Proceedings of the 8th International Management Conference: Management challenges for sustainable development. *Bucharest, Romania*, 6-7 Nov, 563-568. Retrieved from <http://www.upet.ro/simpro/2014/proceedings/08%20-%20MANAGEMENT%20AND%20MARKETING/8.2.pdf>
22. Scott, T., Mannion, R., Davies, H., & Marshall, M. (2003). The quantitative measurement of organizational culture in health care: a review of the available instruments. *Health services research*, 38(3), 923-945.
23. Seely, P. (2015). Calculating ROI of Employee Training and Development. Human Capital Development. Retrieved from <https://www.linkedin.com/pulse/calculating-roi-employee-training-development-philip-seely>
24. Shaikh, A. (2013). *Management competence measurement for business school educated managers*. (Dissertation – MBA). Durban: Management College of South Africa.
25. Shepard, C. (2016). Assessing the ROI of training. Retrieved from <http://www.fastrak-consulting.co.uk/tactix/Features/tngroi/tngroi.htm>
26. Sullivan, T. (2016). *Blitzscaling*. Boston, MA: Harvard Business School.
27. Thekiso T. A. (2011). *Management skills measurement of business school educated managers in the North West and Vaal triangle areas*. (Thesis – PhD). Potchefstroom: North-West University.
28. Weinert, C., Cudney, S., & Spring, A. (2008). Evolution of a Conceptual Model for Adaptation to Chronic Illness. *Journal of Nursing Scholarship*, 40(4), 364-372.
29. Wigdor, A. K., & Green, B. F. (1991). *Performance Assessment for the Workplace* (Volume I). Washington, DC: National Academy.

APPENDIX A.

LEADERSHIP SKILLS CRITERIA

Source: Bisschoff & Thekiso (2012).

Self-awareness skills		
	Questions	Source
1	It is important for me to try very hard to improve on my past performance at work	Steers and Braunstein (1976)
2	It is important for me to know how I am progressing as I complete tasks at work	Steers and Braunstein (1976)
3	It is important to talk to those around me about non work matters	Steers and Braunstein (1976)
4	It is important for me to be able to read people's true emotions correctly through their eyes	Lennox and Wolfe (1984)
5	It is important for my powers of intuition to be quite good when it comes to understanding others' emotions and motives	Lennox. and Wolfe (1984)
6	It is important for me to have the ability to control the way I come across to people, depending on the impression I wish to give them	Lennox and Wolfe (1984)
7	It is important for me to work to gain more control over the events around me	Steers and Braunstein (1976)
8	It is important for me to value educational reading, television, and self-improvement programmes	Lussier (1997)
9	I can tell if a person is lying to me at once from the person's manner of expression	Lennox and Wolfe (1984)
10	Compared to my work colleagues, I can do most tasks very well	Chen, Gully and Eden (2001)
Self-directed career planning skills		
	Questions	Source
1	It is important for me to know how to manage my career	Adapted from Bloisi et al. (2003, p. 271)
2	In planning my career, it is important that I make a mission statement that expresses my philosophy and central values	Adapted from Bloisi et al. (2003, p. 271)
3	In planning my career, it is important that I establish and visualise my goals beginning with the end	Adapted from Bloisi et al. (2003, p. 271)
4	In planning my career, it is important that I be aware of the career stages that I have got to go through	Adapted from Bloisi et al. (2003, p. 271)
5	In planning my career, it is important that I communicate a positive attitude	Adapted from Bloisi et al. (2003, p. 271)
6	In planning my career, it is important that I perform in my present job instead of focusing on the job ahead	Adapted from Bloisi et al. (2003, p. 271)
7	In planning my career, it is important that I capitalise on luck and build on setbacks	Adapted from Bloisi et al. (2003, p. 271)
8	In planning my career, it is important that I develop networks	Adapted from Bloisi et al. (2003, p. 271)
9	In planning my career, it is important to find a mentor, and be a mentor myself	Adapted from Bloisi et al. (2003, p. 271)
10	In planning my career, it is important to know that helping others achieve success is an important attribute of successful managers and professionals	Adapted from Bloisi et al. (2003, p. 271)
General integrative skills		
	Questions	Source
1	It is important to acknowledge that communication is the glue that holds an organisation together	Own, based on Mayfield and Mayfield (2004, p. 48)
2	It is important to get over stage fright and gain self-confidence by learning and doing presentations in the classroom	Own, based on Mayfield and Mayfield (2004, p. 49)
3	It is important for managers to understand that it is difficult for some employees to put in overtime hours without substantial notice, to work weekends, to be gone overnight on business, or to accept a transfer to a new location	Own, based on Chen et al. (2004, p. 31)
4	It is important to understand that physical barriers such as narrow doorways or stairs can be troublesome for some employees	Own, based on Chen et al. (2004, p. 31)

5	It is important that managers be sure that employees are sensitive to co-workers and to be observant of overt expressions of sexism, racism, ageism, and more subtle biases within the work group	Own, based on Chen et al. (2004, p. 31)
6	Managers can accept gifts from customers/suppliers in exchange for giving them business	Lussier (1993, p. 297)
7	Manager can use a company phone to make personal long distant calls	Lussier (1993, p. 297)
8	It is important to learn how to manage and deal with stress	Own, based on Drucker (2002, p. 92)
9	I believe that incompetent management is the largest cause of workplace stress for subordinates	Own, based on Drucker (2002, p. 92)
10	It is important for one to effectively manage one's time in order to reduce stress	Own, based on Drucker (2002, p. 92)

Planning and control skills

Questions		Source
1	I believe it is important that a manager agree plans and goals with his/her subordinates	Own, based on Turkey and Brewer (2002, p. 84)
2	I believe it is important that plans and goals be renegotiated and agreed upon based on the changes in the business environment	Own, based on Turkey and Brewer (2002, p. 84)
3	It is important that goals agreed upon be reasonable, achievable and measurable	Own, based on Bowman and Hurry (2001, p. 763)
4	It is important that agreed goals be evaluated to ensure that goals are being accomplished as planned and deviations be corrected	Own, based on Manz and Neck (2004, p. 89)
5	It is important that set goals be compared against the actual performance when evaluating performance	Own, based on Manz and Neck (2004, p. 89)
6	It is important that I know how to creatively solve organisational problems	Own, based on Manz and Neck (2004, p. 89)
7	It is important that I be taught how to use my time efficiently	Own, based on Drucker (2002, p. 95)
8	A lack of conflict in the organisation can make an organisation static non responsive to the needs of change and innovation	Own, based on Wilmot and Hocker (2001, p. 37)
9	It is important that I have skills to maintain an optimum level of conflict in my operational settings	Own, based on Wilmot and Hocker (2001, p. 37)
10	It is important that I have the skills to guide employees in productive problem solving efforts, to learn and profit from it	Own, based on Wilmot and Hocker (2001, p. 37)

Organising skills

Questions		Source
1	I believe that work designing is very much a job of a manager, and it is important that I be trained on how to go about designing work	Own, based on Ball (2005, p. A5)
2	It is important for me to be skilled on how to conduct organisational diagnoses	Own, based on Williams (2009a, p. 102)
3	It is important for me to know how to conduct employee selection	Own, based on Lawson (2000, p. 128)
4	It is important for me to know how to identify people needed to create high profile teams	Own, based on Fuller and Mansour (2003, p. 427)
5	It is important for me to know how to design work for my team	Own, based on Ball (2005, p. A5)
6	It is important for me to know how to modify the organisational culture	Own, based on Williams (2009a, p. 102)
7	It is important for me to know how the selection process operates	Own, based on Lawson (2000, p. 128)
8	It is important for me to know how to determine training gaps, and to put training plans in place	Own, based on Lawson (2000, p. 131)
9	It is important for me know how to develop a high profile team	Own, based on Fuller and Mansour (2003, p. 63)
10	I think it is the duty of a manager to develop his/her subordinates	Own, based on Lawson (2000, p. 131)

Leading skills

Questions		Source
1	I think it is important for managers to focus their attention on irregularities, mistakes, exceptions, and deviations from what is expected of their subordinates	Den Hartog, VanMuijen, and Koopman (1977)

2	I think it is important that managers serve as role models for their subordinates	Den Hartog, VanMuijen, and Koopman (1977)
3	It is important that managers be trusted to help their subordinates overcome any obstacles	Den Hartog, VanMuijen, and Koopman (1977)
4	It is important for managers to make their subordinates aware of strongly held values, ideals, and aspirations which are commonly shared in the organisation	Den Hartog, VanMuijen, and Koopman (1977)
5	It is important for managers to mobilise a collective sense of organisational mission	Den Hartog, VanMuijen, and Koopma (1977)
6	It is important for managers to works out agreements with their subordinates on what they will receive if they do what needs to be done	Den Hartog, VanMuijen, and Koopman (1977)
7	It is important for managers to articulate a vision of future opportunities to their subordinates	Den Hartog, VanMuijen, and Koopman (1977)
8	It is important for managers to talk optimistically to their subordinates about the future	Den Hartog, VanMuijen, and Koopman (1977)
9	It is important for managers to engage in words and deeds that enhance their image of competence	Den Hartog, VanMuijen, and Koopman (1977)
10	It is important for managers to instil pride in being associated with him or her	Den Hartog, VanMuijen, and Koopman (1977)

Managing change

Questions		Source
1	I believe that an expert who does not come up with a definite answer probably doesn't know too much	Adapted from Budner (1962), Lewin (1947), and Kotter (1996)
2	I believe that there is really no such a thing as a problem that can't be solved	Adapted from Budner, S. (1962), Lewin (1947), and Kotter (1999)
3	I believe that, people who fit their lives into a schedule, probably miss most of the joy of living	Adapted from Budner (1962), Lewin (1947), and Kotter (1999)
4	I believe that a good job is one where it is always clear what is to be done and how it is to be done	Adapted from Budner (1962), Lewin (1947), and Kotter (1999)
5	I think I would like to live in a foreign country for a while	Adapted from Budner (1962), Lewin (1947), and Kotter (1999)
6	I believe that a person who leads an even, regular life in which few surprises or unexpected happenings arise really has a lot to be grateful for	Adapted from Budner (1962), Lewin(1947), and Kotter (1999)
7	I believe it is more fun to tackle a complicated problem than to solve a simple one	Adapted from Budner (1962), Lewin (1947), and Kotter (1999)
8	I believe that, people who insist on a yes or no answer, just don't know how complicated things really are	Adapted from Budner (1962), Lewin (1947), and Kotter (1999)
9	I believe that the sooner everyone acquires similar values and ideas, the better	Adapted from Budner (1962), Lewin (1947), and Kotter (1999)
10	I believe that teachers or supervisors who hand out vague assignments give one a chance to show initiative and originality	Adapted from Budner (1962), Lewin (1947), and Kotter (1999)