Student success in an MBA programme: The role of cognitive ability, personality and selection practices

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Thesis accepted in fulfilment of the requirements for the degree Doctor of Philosophy in Industrial Psychology at the North-West University

Promoter: Prof J Pienaar

Graduation: May 2020

Student number: 10061673

ACKNOWLEDGEMENTS

I would like to express my gratitude to:

- My Creator who carried me when I could not walk
- My parents for guiding and forming me with so much love and tenderness. Wish you were still here to share this with me. I could not have done this without the memory of your love.
- My study leader Prof. Jaco Pienaar for all his wisdom, guidance, understanding and patience
- Francois and Renée Watson, the most special couple for sprinkling your magic on article 4.
- Micky for all your encouragement, care and understanding
- My sons, Handré and Thinus for their love, support and understanding
- My sister and her daughters, Berna and Anria for your never-ending support
- All my dearest friends for carrying me through hard times
- Elsa Esterhuizen for quality and technical editing
- Petra Gainsford for formatting the final document

ABSTRACT

The focus of this thesis was to determine the factors that contribute to the successful completion and throughput rate of the MBA programme. Cognitive ability, selection criteria and managerial competencies will be tested for the reliable prediction of successful completion of the MBA programme. The reasons for drop-out and non-completion of the MBA programme will further be determined. The study followed that article route which includes four articles that contributes to the focus of the study.

In Article 1 the best predictors of successful completion of MBA first year students were determined. Cognitive ability and selection criteria were tested for reliability as predictors of MBA first year success. Students enrolled between the years 2006 and 2013 at a South African business school formed the population of N=777 of the study. A longitudinal quantitative research design was followed. Numerical cognitive ability was found to be the best predictor of MBA first year success, defined here as the successful completion of all first year MBA modules within the first academic year. Type of undergraduate qualification was found to influence academic performance. It was found that language of delivery was related to MBA I success and that younger students out-performed their older fellow students.

The purpose of Article 2 was to determine the factors contributing to the successful completion and throughput rates of a MBA programme. A longitudinal quantitative research design was followed. The population of the study included 472 (N=472) students enrolled between the years 2006 and 2013 at a particular South African business school. A databank of cognitive ability assessment and biographical detail gathered during the selection process was available to the study. Numerical- and verbal cognitive ability were compared to timeous MBA completion results Logistic regression analysis was applied to determine the relation of the cognitive and verbal ability measures, former education, gender, age and language, to the successful completion of the MBA degree. Results indicated that cognitive ability is related to completion of the MBA degree. The study further showed that English language proficiency is related to academic success. Younger students performed better, compared to older students, indicating that age is related to MBA completion. Former education proved to have no relation to MBA completion.

The focus/aim of Article 3 was to determine the role of managerial competency in the prediction of MBA academic performance. The study population consisted of a total of N=203 of students that started their study programme in 2010, and completed the MBA programme either in 2012 or 2013, respectively (3 – 4 years). Competency assessments gathered within the selection process was used and compared to timeous MBA completion. Logistic regression analysis was

applied to determine the significance and the unique contributions of each of the predictors (biographical variables and eight managerial competencies) to academic success. The managerial competency that was best related to MBA academic performance was Creating and conceptualising followed by Supporting and co-operating. Results further indicated that the age of participants was related to academic success in that younger students were more representative in successfully completing the MBA within the allotted timeframe than older students were.

Article 4 explored the reasons for drop-out and non-completion of MBA students through reflecting on their lived experience that led to discontinuation of their academic studies. The study followed a qualitative approach, specifically that of interpretive phenomenological analyses (IPA). The sample consists of 8 learners that dropped out from the MBA programme of a South African business school between the years 2013 and 2015. The study sample consisted of eight participants of which three were females and five males, aged between 27 and 54 years old. The main finding of this study was that the interplay of simultaneous events, challenges and demands that participants experienced during their part-time studies, described as coinciding circumstances in this study, was the most prominent reason for student drop-out and non-completion. The findings of this study contributes to the body of knowledge on student attrition by an in-depth understanding of the reasons for MBA drop-out and non-completion through the lived experiences of participants.

The insight the study brought upon understanding the role and predictive value of cognitive ability and managerial competency upon MBA academic performance makes a significant contribution to this field of study. The study further contributes by gaining deep insight into, and understanding the demands of the corporate market regarding managerial competencies of MBA graduates and what the MBA curriculum should include. It is clear that the study will contribute to the field of career psychology. The study further contributes towards the understanding of the reasons of drop-out and factors that contribute towards early withdrawal from tertiary education. Attrition in higher education has been widely researched and retention models have been developed in the quest to explain and develop a deeper understanding of student retention. Finally, from the knowledge gained from this study a new model of student retention and drop-out was proposed which aims to present a more inclusive model of student attrition.

Key terms: MBA success, academic performance, pass-rate, cognitive ability, verbal, non-verbal, drop-out, selection practices, competency profiling, managerial competencies

OPSOMMING

Die fokus van hierdie proefskrif was om die faktore te bepaal wat bydra tot die suksesvolle voltooiing en deurvloeikoers van die MBA-program. Kognitiewe vermoë, seleksiekriteria en bestuursvaardighede sal getoets word vir die betroubare voorspelling van die suksesvolle voltooiing van die MBA-program. Die redes vir die uitval en nie-voltooiing van die MBA-program sal verder bepaal word. Die studie het die artikelroete gevolg wat vier artikels insluit wat bydra tot die fokus van die studie.

In Artikel 1 is die beste voorspellers vir die suksesvolle voltooiing van MBA-eerstejaarstudente bepaal. Kognitiewe vermoë en seleksiekriteria is getoets vir betroubaarheid as voorspellers van MBA-sukses in die eerste jaar. Studente wat tussen 2006 en 2013 by 'n Suid-Afrikaanse besigheidskool ingeskryf is, het die bevolking van N = 777 van die studie gevorm. 'n Longitudinale kwantitatiewe navorsingsontwerp is gevolg. Numeriese kognitiewe vermoëns is die beste voorspeller van MBA-sukses in die eerste jaar, wat hier gedefinieer word as die suksesvolle voltooiing van alle eerstejaar-MBA-modules in die eerste akademiese jaar. Daar is gevind dat die tipe voorgraadse kwalifikasie akademiese prestasie beïnvloed. Daar is gevind dat die taal van aflewering verband hou met die sukses van MBA I, en dat jonger studente beter as hul ouer medestudente presteer het.

Die doel van Artikel 2 was om die faktore wat bydra tot die suksesvolle voltooiing en deurvloeikoers van 'n MBA-program, te bepaal. 'n Longitudinale kwantitatiewe navorsingsontwerp is gevolg. Die populasie van die studie het 472 (N = 472) studente ingesluit wat tussen 2006 en 2013 by 'n bepaalde Suid-Afrikaanse besigheidskool ingeskryf was. 'n Databank van kognitiewe vaardigheidsassessering en biografiese detail wat tydens die keuringsproses versamel is, was beskikbaar vir die studie. Numeriese en verbale kognitiewe vermoëns is vergelyk met tydige MBA-voltooiingsresultate. Logistiese regressie-analise is toegepas om die verband tussen die kognitiewe en verbale vermoënsmaatstawwe, voormalige onderwys, geslag, ouderdom en taal, te bepaal tot die suksesvolle voltooiing van die MBA-graad. Resultate het aangedui dat kognitiewe vermoë verband hou met die voltooiing van die MBA-graad. Die studie het verder getoon dat Engelsvaardigheid verband hou met akademiese sukses. Jonger studente het beter gevaar as ouer studente, wat daarop dui dat ouderdom verband hou met die voltooiing van die MBA. Voormalige onderwys het geen verband gehad met die voltooiing van die MBA nie.

Die fokus/doel van Artikel 3 was om die rol van bestuursbevoegdheid in die voorspelling van akademiese prestasies in MBA te bepaal. 'n Kwantitatiewe navorsingsontwerp is gevolg deur gebruik te maak van 'n Suid-Afrikaanse besigheidskool se studente, wie ingeskryf het tussen 2008

en 2013. Die studiepopulasie het bestaan uit ’n totaal van N = 203 studente wat hul studieprogram in 2010 begin het, en die MBA-program óf in 2012 óf 2013 voltooi het (3-4 jaar). Die bevoegdheidsbeoordelings wat tydens die keuringsproses ingesamel is, is gebruik en vergelyk met die tydige voltooiing van die MBA. Logistieke regressie-analise is toegepas om die betekenis en unieke bydraes van elk van die voorspellers (biografiese veranderlikes en agt bestuursbevoegdhede) tot akademiese sukses te bepaal. Die bestuursbevoegdheid wat die beste met MBA-akademiese prestasies verband hou, was skepping en konseptualisering, gevolg deur ondersteuning en samewerking. Resultate het verder aangedui dat die ouderdom van deelnemers verband hou met akademiese sukses deurdat jonger studente meer verteenwoordigend was in die suksesvolle voltooiing van die MBA binne die toegelate tydsraamwerk as wat ouer studente was.

Artikel 4 ondersoek die redes vir die uitval en nie-voltooiing van MBA-studente deur te besin oor hul beleefde ervaring wat gelei het tot die staking van hul akademiese studies. Die studie het ’n kwalitatiewe benadering gevolg, spesifiek dié van interpretatiewe fenomenologiese ontledings (IPA). Die steekproef bestaan uit agt leerders wat tussen 2013 en 2015 uit die MBA-program van ’n Suid-Afrikaanse besigheidskool weggeval het. Die steekproef het bestaan uit agt deelnemers, waarvan drie vroue en vyf mans, tussen 27 en 54 jaar oud was. Die belangrikste bevinding van hierdie studie was dat die wisselwerking van gelyktydige gebeure, uitdagings en eise wat deelnemers tydens hul deeltydse studie ondervind het, wat as toevallige omstandighede in hierdie studie beskryf word, die belangrikste rede was vir die uitval en nie-voltooiing van studente. Die bevindinge van hierdie studie dra by tot die kennismateriaal oor die attrisie van studente deur ’n diepgaande begrip van die redes vir MBA-uitval en nie-voltooiing deur die ervarings van deelnemers.

Die insig wat dié studie gebring het, om die rol en voorspellingswaarde van kognitiewe vermoë, persoonlikheid en bestuursbevoegdheid tydens die MBA-akademiese prestasie te verstaan, lewer ’n belangrike bydrae tot hierdie studieveld. Die studie dra verder by deur ’n diepgaande insig te kry oor, en begrip van die vereistes van die ondernemingsmark rakende bestuursbevoegdhede van MBA-gegradueerdes en wat die MBA-kurrikulum moet insluit. Deur die kennis wat verwerf is uit hierdie studie is ’n nuwe model vir die behoud en uitval van studente voorgestel

Sleutelterme: MBA-sukses, akademiese prestasie, slaagsyfer, kognitiewe vermoë, verbaal, nie-verbaal, uitval, keuringspraktyke, bekwaamheidsprofilering, bestuursvaardighede

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NOTE TO THE READER

The thesis is submitted in the form of 4 research articles that are in various stages of print, review or readiness for submission. Chapter 1 presents the original research proposal at the start of the project. Chapter 6 presents a summary to the thesis. For the 4 articles, a cover sheet is included to indicate the status of the work.

It should be noted that some information needs to be repeated in the article layout because each article is a stand-alone article. For example, the research methodology is relevant in all the articles, hence the relevant parts for the specific article needs to be repeated. Another example is the theoretical background and theoretical models used as background to the study needs to be repeated in the concluding chapter. Albeit these examples of repeated material are limited, readers need to take note hereof.

CHAPTER 1
NATURE AND SCOPE OF THE STUDY

1.1 Introduction

The focus of this thesis will be to determine the factors that contribute to the successful completion and throughput rate of the MBA programme. Cognitive ability, selection criteria and managerial competencies will be tested for the reliable prediction of successful completion of the MBA programme. The reasons for drop-out and non-completion of the MBA programme will further be determined.

Chapter 1 consists of the problem statement, research objectives and describes the research methodology of the proposed study. The problem statement will include a presentation of relevant research variables such as cognitive ability, selection criteria and managerial competencies. The predictive validity of selection instruments of cognitive ability and personality tests are explored. The research methodology will be discussed explaining the research design, study population and statistical analysis. In conclusion, an overview of the suggested chapters of the thesis is presented, and the list of references consulted.

1.2 Problem statement

1.2.1 Theories of academic success

The determinants of academic success in education have been of interest for perhaps as long as education has existed. From past literature, it is clear that motivation was seen as the most prominent enabler for academic success. As background to this, and setting the theoretical positioning of this proposed thesis, a short history of motivational research in education from 1941 - 1990 as summarised by Bernard Weiner (1990) follows. Weiner uses the material of the Encyclopaedia of Educational Research for his analysis, which he sees as an objective representation of the history of motivational research in education. The first two chapters published in the Encyclopaedia of Educational Research by Young (1941, 1950) and Marx (1960) was based on the drive theories. Themes relevant to education contained in these chapters were praise and reproof, success and failure, knowledge of results, cooperation and competition and rewards and punishment. Weiner (1990) reviewed and summarised the research of the 1960's, concluding that motivational research in this era was mostly focused on achievement motivation research. Individual differences became the focus with characteristics of achievement needs, anxiety and locus of control, which was of great value for educational psychologists (Weiner 1990). The next chapter on motivation in the Encyclopaedia appeared in 1982 (Ball, 1982), with the focus on attribution theory, achievement motivation, anxiety, self-esteem and curiosity.

Individual differences were explored further, while intra-human motivation and the drive concept diminished to the background.

After reviewing the history of motivational research in education, Weiner (1990) looks at present motivational research and concludes that most of the formal theories of the past, including drive, psychoanalytic, cognitive, and associationistic concepts, are no longer on the foreground of motivational research in education. Weiner (1990) further attributes this to the fact that these theories do not have relevance in the class environment. According to Weiner, the topics presently evident are the different cognitive approaches to motivation, while the theories that remain are based on cognitions that are interrelated of causal ascriptions, helplessness, efficacy and beliefs about control, and thoughts about goal achievement. The main stream of motivational research at the beginning of the 1990's was focused on strivings of achievement (Weiner, 1990). The dominant approach within the achievement field, called "goal theory" looks into inter-related concepts like ego-involvement, reward structure and social comparison as indicator of success and ability attributions. The inclusion of self is evident in the new cognitive direction, with a growing interest in emotion. When looking into the future of motivational research, Weiner (1990) cautions that frameworks larger than self should be considered, as self is always part of a social system. Old constructs such as "belongingness", and other variables such as affective experience and self-esteem should be brought into the equation when researching educational motivation and academic performance (Weiner, 1990).

Maehr and Meyer (1997) also looked into the progress that has been made in the study of motivation, specifically in education. They further explored the issue of generalizability as a matter of concern in motivational research and selected five issues that particularly need consideration with regards to motivation, namely age, gender, culture, class, and ethnicity. The study concludes noting that although some studies have been done on these variables, it should stay on the agenda for further research.

Linnenbrink and Pintrich (2002) highlights that student achievement entails both cognitive and motivational factors. These two concepts cannot be separated when assessing student motivation as enabler of academic success. Students need both cognitive skills and motivation in order to perform well. The shift from traditional motivational theories to social cognitive models of motivation brought about the integration of cognitive and motivational factors (Pintrich & Schunk, 2002). Linnenbrink and Pintrich (2002) questions motivational measurement in a single score, as this might be misleading, and rather supports a multi-faceted understanding of motivation. When assessing motivation as academic enabler, it should include aspects such as self-efficacy, attributions, intrinsic motivation and goals (Linnenbrink & Pintrich, 2002).

The role of cognitive ability as academic enabler and all aspects thereof on MBA success will be further explored in this study. For the purpose of this study, MBA success is seen as the completion of the MBA degree within the allotted three to four years of study. The duration of the MBA programme of study is three years, however, a fourth year is allowed for successful completion of the programme. The place and value of this PhD study to the field of Industrial or Organisational Psychology will be discussed briefly. A further objective will be to explore the variables that impact on academic success in an MBA programme and the reasons for drop-out from the programme.

Career psychology, which is a sub-field of Industrial Psychology, is defined by Bergh and Theron (2006) as a field "...concerned with studying issues of career development with regard to individuals, the nature of employment, career-related issues in organisations and also non-work influencing factors". The specific focus of career psychology falls upon career, job and organisational choice and withdrawal behaviours, problems with career development and factors that influence individuals in their careers. Career psychology further concerns itself with the evolution and change organisations encounter and how the processes in organisations affect careers (Bergh & Theron, 2006). Based on the definition above, it is clear that the focus of this study will contribute to the field of career psychology. The motivation of obtaining an MBA degree has been towards accomplishing a career move or facilitating progression in a career (Baruch & Peiperl, 2006). Traditionally, the career path was viewed as moving upward in the hierarchal ladder of the organisation. This has been replaced by the notion that multiple skills pave the way to career advancement (Schreuder & Theron, 2001). Prospective MBA students perceive the MBA degree as a tool to acquire the necessary skills and managerial competencies to move forward in their career (Baruch & Peiperl, 2006).

By determining the factors that contribute to the success of MBA first-year candidates and evaluating the predictive value of cognitive ability, selection criteria and managerial competencies in the subsequent completion of the MBA programme, and further determining the reasons for drop-out and non-completion of the MBA programme, the potential contribution of this thesis is significant.

1.2.2 The Master of Business Administration (MBA) degree

Internationally, the popularity of a Master of Business Administration (MBA) has been portrayed in the escalation of MBA graduates over the last 50 years (Butler, Johnson, & Forbes, 2008). Even so, criticism of the MBA programme is ample, concerning different factors e.g. employability and career advancement, curricula and necessary skills offered as well as selection practices (Dreher & Ryan 2002; Mihail & Elefterie 2006; Navarro 2008).

Bennis and O'Toole, (2005) criticises curricula of business schools for being too scientifically orientated and not grounded in relevant business practices. Bennis and O'Toole (2005) further concludes that the MBA programme fails to sufficiently prepare students with the necessary skills for organisational success and effectiveness. Navarro (2008) holds the opinion that the emphasis of MBA curricula remains on the traditional functional silo courses, that addresses the "hard science" with subjects such as accounting, finance and marketing, with too little focus on soft skill development, corporate social responsibility, and a global perspective. According to Navarro (2008), the survival and prosperity of top business schools in an ever-increasing competitive environment lies within curriculum innovation.

In the South African context, the challenges business schools face is similar to that of international business schools. One of the great concerns highlighted in recent years in South Africa concerns the throughput rate and academic performance of MBA students. Outcome 2 of the National Plan of the Ministry of Education required Higher Educational Institutions to improve the efficiency of graduate outputs as a matter of priority (Ministry of Education, 2001:20). The largest student drop-out business schools encounter, influencing their throughput rate, is experienced in the first year of MBA study (Dreher & Ryan, 2000). Business schools need to explore the reasons behind this large drop-out in the first year of study in order to be efficient and comply with the National Plan (Ministry of Education, 2001:20). According to the annual report of the Department of Higher Education (2012), the situation had not improved in the preceding 11 years regarding the level of academic performance and throughput rates. The report emphasises that increased production of master's and doctoral graduates are essential in producing the next generation of academics and researchers.

Kettunen (2003) found that MBA students in directorial positions in large companies had positive results with their studies and were more likely to graduate than students from smaller companies and lower level positions. Kettunen (2003) also found entrepreneurs with previous success in business had positive results in the MBA programme. Previous academic results were also found to be a good predictor of academic success in the MBA programme. Van Bragt, Bakx, Bergen and Croon (2011) ascribe conscientiousness as personality trait to be positively related to

academic performance while ambivalence and lack of regulation has negative impact on academic performance and may result in drop-out. Contrastingly, Alias and Zain (2006). found that former education is not a reliable predictor of study outcome. Although some research hints at reasons for drop-out from the MBA programme, further exploration needs to be done. This is especially true for MBA programmes in South Africa.

Dreher and Ryan (2000) investigated the relationship between the poor academic performance of first year MBA students and prior work experience, and found work experience to be unrelated to academic performance. Chemers, Hu and Garcia (2001) found academic self-efficacy and optimism to be strongly related to performance and adjustment. This was found to influence academic performance both directly and indirectly, through expectations and coping perceptions of stress, health, satisfaction and commitment to complete their study. DeSchields, Kara and Kaynak (2005), on the other hand, investigated the relationship of Herzberg's two-factor theory on retention and satisfaction of business students and found a positive relationship. The study also found that successful students were likely to be more satisfied with the university or college they studied at than students that were less successful. In investigating the determinants of dropout rates, Bennett (2003) found that financial hardship had a strong influence on the decision to leave. Individual self-esteem was also found to play a role in encouraging or discouraging withdrawal when experiencing low grades or significant financial difficulties.

Yang and Lu (2001) found that only one quarter of the variation in academic performance could be explained by a few precedent variables, with undergraduate Grade Point Average (GPA) found to be the most accurate predictor of graduate academic performance. Christensen, Nance and White (2012) support the finding of undergraduate GPA as an accurate predictor of MBA success, and also found undergraduate written composition to be positively correlated with GPA during the course of the MBA. Dreher and Ryan (2002) examined admission requirements in MBA selection and found the criterion of prior work experience as predictor to be contradictory. The study explored the relationship between years of pre-MBA work experience and post-MBA career performance and found that students with less or no work experience performed better in post-MBA career positions when compared to their more experienced counterparts.

Selection criteria and selection processes of South African business schools are not uniform. Ability assessments (verbal critical reasoning and numerical critical reasoning) are used by the University of Stellenbosch Business School (USB, 2017), Nelson Mandela Metropolitan University Business School (NMMU, 2017), and the North-West University Business School (NWU, 2017). These trends are also evident in international business schools (Bisschoff, 2005; Harvard Business School, 2017; Stanford Graduate School of Business, 2017). The link between these

selection tools and actual academic success in the MBA programme is, however, not that firmly established.

Against this background, the accuracy of selection criteria as predictors of MBA success has been in contention, resulting in some South African studies in search of answers to these problems (Adendorff & North, 2004; Kotze & Griesel 2008; Van der Merwe & De Beer, 2006). Adendorff and North (2004) found that numerical and verbal skills, as well as 16 identified personality characteristics were accurate predictors of MBA success. Kotze and Griesel (2008) found numerical aptitude, personal motivation and resilience contributed significantly to academic success. On the other hand, Van der Merwe and De Beer (2006) determined the predictive validity of potential ability assessment, learning ability assessment and school leaving results by determining the relation of these assessments with academic performance of students' completed study. Their findings showed that the learning potential test was a more accurate predictor of future academic success than mere static measures of cognitive ability and school-leaving results. Despite these numerous studies, the final word has clearly not been spoken on MBA success, with numerical aptitude and learning potential being the only consistent predictors across studies.

Precedent selection criteria have been generally used and accepted as predictors of MBA success, though literature shows contradictory findings. Although positive studies of validity of cognitive instruments has been done on the instruments used in this study, (Adendorff 2004; Kotze & Griesel, 2008; SHL, 2009) the samples were small and done on one MBA cycle only. The accuracy of such predictors need be tested for a larger population. To this effect, a large sample (n=835) that covers 5 completed 3 – 4 year MBA cycles, and 8 years of completed MBA I cycles, stretching from 2006 to 2013 constitutes the available data.

From the literary review, the following pressing research questions emerge and need to be addressed:

1. Can existing cognitive ability (verbal and non-verbal) instruments be used to understand the success and/or failure of first year MBA candidates?

2. What are the factors that contribute towards the completion and throughput rates of an MBA programme?

3. Are managerial competencies related to subsequent MBA academic performance?

4. What are the reasons for drop-out and non-completion of MBA candidates?

1.3 Research objectives

The objectives are divided into general- and specific objectives.

1.3.1 General objective

To establish the accuracy of current MBA selection criteria in predicting academic success as well as understanding the reasons for drop-out and non-completion of MBA-candidates.

1.3.2 Specific objectives

1. To specifically predict the success and/or failure of first year MBA candidates with cognitive ability (verbal and non-verbal) instruments.

2. To gain a deeper understanding of factors that contribute to the completion and throughput rates of a particular MBA programme at a selected business school in South Africa.

3. To determine if managerial competencies are related to subsequent MBA academic performance.

4. Gaining a deep understanding for the reasons of MBA drop-out and non-completion.

1.4 Research method

The research method consists of a literature review and an empirical study.

1.4.1 Literature review

A comprehensive literary review will be conducted regarding the challenges successful business schools face with the focus on selection practices and the role of cognitive ability and personality assessments in predicting MBA success. A theoretical background of indicators to academic performance will be provided as background to the study. The literature will further be explored concerning the accuracy of selection criteria as predictors of MBA success.

1.4.2 Empirical study

The empirical study ensures that the proposed objectives of the study are achieved. It comprises of the research design, the participants and statistical analysis.

1.4.2.1 Research design

Both quantitative and qualitative research methods will be applied to this thesis. This thesis is structured in article format. The first three articles will make use of a quantitative research design. The first two articles aim to 1) determine if cognitive ability instruments and selection criteria can be used to understand first-year MBA candidate success and 2) to predict successful MBA completion and throughput rates. The third article aims to determine if managerial competencies

are related to subsequent MBA performance. The fourth article aims to gain a deep understanding of reasons for drop-out from participant experience by the use of a qualitative research design applying interpretative phenomenological analyses.

1.4.2.2 Quantitative research method

A large data bank of students who completed the MBA degree between 2006 and 2013 at a particular South African business school is available that can be quantified and summarized, and the final results will be expressed in statistical terminologies. Golafshani (2003) describes quantitative research as the measurement of numbers, and objective hard data. This method will be the most economical and suitable for the first part of this study.

1.4.2.3 Qualitative research method

The last part of the study applied a qualitative research design, specifically by the use of an interpretive phenomenological analyses (IPA) approach. With the use of IPA the aim was to uncover the meaning and sense-making of the lived experience of the individual through a process of in-depth reflective enquiry (Smith, Flowers & Larkin, 2009). IPA is especially useful to explore in detail the participants' view (Smith, & Osborn, 2008), in order to better understand the research phenomena or perspectives from the account from the participants (Smith et al., 2009).

1.4.2.4 Participants

For the quantitative articles, the total population of MBA students of a business school for the academic years 2006 to 2013 will be used for the research. Cognitive assessments have been part of the selection procedure for all MBA applicants from 2006. Five MBA cycles of 3-4 years will have been completed in the time frame from June 2006 to November 2013, while eight MBA phase I students will have completed their first year. A total of N=835 students represent the research population. The available population is portrayed in Table 1.1 below.

Table 1.1: Available study population: MBA cycles from 2006 – 2013

Years	2006	2007	2008	2009	2010	2011	2012	2013
	MBA I	MBA II	MBA III	MBA IV				
1	*n* = 91	*n* = 70	*n* = 58	*n* = 25				
		MBA I	MBA II	MBA III	MBA IV			
2		*n* = 103	*n* = 73	*n* = 62	*n* = 20			
			MBA I	MBA II	MBA III	MBA IV		
3			*n* = 103	*n* = 84	*n* = 72	*n* = 23		
				MBA I	MBA II	MBA III	MBA IV	
4				*n* = 120	*n* = 83	*n* = 82	*n* = 17	
					MBA I	MBA II	MBA III	MBA IV
5					*n* = 79	*n* = 73	*n* = 67	*n* = 18
	n (MBA1) = 835					MBA I	MBA II	MBA III
6	*n* (MBA2) = 546 (289 drop outs)					*n* = 108	*n* = 81	*n* = 72
	n (MBA3) = 413 (133 drop outs)						MBA I	MBA II
7	*n* (MBA4) = 103 (did not complete in 3-4 years)						*n* = 109	*n* = 82
								MBA I
8								*n* = 122

For the fourth, qualitative article, the research population consists of 74 MBA learners that were enrolled at a South African business school between 2013 and 2015, but had dropped out of the programme. The article follows an interpretive phenomenological analyses (IPA) approach. The aim is to gain a deep understanding of the reasons for drop-out and non-completion through the lived experience of participants. Participants will reflect on their lived experience that led to discontinuation. The researcher argued that reflections on more recent experiences would be more accurate. Therefore, more recent data of learners enrolled between 2013 and 2015 will be used.

1.4.2.5 Measuring instruments

1.4.2.5.1 Biographical data

Biographical data such as age, gender, home language, and previous education will be available from the data bank. The above detail will be anonymous and kept confidential throughout the study.

A description of the measuring instruments that will be explored follows:

The test battery consists of three parts; two cognitive ability questionnaires of which one focuses on numerical critical reasoning (NMG3) and the other on verbal critical reasoning (VMG3). The third part consists of an Occupational Personality Questionnaire (OPQ) (SHL, 2009). A Universal

Competency Report, derived from the OPQ was utilised to determine the relationship between managerial competencies and academic performance.

1.4.2.5.2 Numerical reasoning questionnaire (NMG3)

The numerical reasoning questionnaire measures the ability to make correct decisions or inferences from numerical data. The data represented and the tasks set are relevant to a business environment. The emphasis in these tasks fall upon understanding and evaluating data, rather than upon computation. The questionnaire consists of 35 questions with a time limit of 35 minutes.

1.4.2.5.3 Verbal reasoning questionnaire (VMG3)

The verbal reasoning questionnaire measures the ability to evaluate the logic of various kinds of arguments. The information presented is relevant to a business environment. The test emphasises understanding, using and evaluating verbal information rather than language usage, spelling or grammar. The questionnaire consists of 48 questions with a time constraint of 25 minutes. It is necessary to explore the reliability and validity of these instruments as this has been a burning point of research over many centuries. Moerdyk (2009) points out that verbal material could be influenced by cultural factors and deprivation, more so than non-verbal material. Hausdorf, LeBlanc and Chawla (2003) found that cognitive ability tests showed adverse impact against minority groups and suggests that the emphasis on verbally based tests, (specifically language and reading) should be minimised in order to be culturally fair. Time constrain is also suggested to be omitted.

1.4.2.5.4 Occupational Personality Questionnaire (OPQ)

The OPQ is used widely and is a respected measure to help organisations understand workplace behaviour that influence performance. The OPQ measures thirty two personality characteristics related to performance. Different management reports can be selected from the OPQ which is created electronically (SHL, 2018). For the purpose of this study, the Universal Competency Profile report was applied.

The Universal Competency Report is compiled from the OPQ assessment and includes contributions from the numerical- and verbal reasoning assessments (SHL, 2018). The report consists of 8 major dimensions divided into 20 sub-dimensions. Below follows a layout and explanation of these dimensions (SHL, 2018).

The report summarises the preferred style or typical way of behaving that is likely to influence an individuals' potential to perform on twenty universal competencies. This report is based on the Universal Competency Framework (UCF). The UCF is a "single underlying construct framework

that provides a rational, consistent and practical basis for the purpose of understanding people's behaviours at work and the likelihood of being able to succeed in certain roles and in certain environments" (Bartram, 2011).

The Universal Competency Report (SHL, 2018) provides managerial competency attributes of candidates on the following 8 major and 20 sub-dimensions:

1. Leading and deciding

1.1 Deciding and initiating action

Takes responsibility for actions, projects and people; takes initiative and works under own direction; initiates and generates activity and introduces changes into work processes; makes quick, clear decisions which may include tough choices or considered risks.

1.2 Leading and supervising

Provides others with a clear direction; motivates and empowers others; recruits staff of a high calibre; provides staff with development opportunities and coaching; sets appropriate standards of behaviour.

2. Supporting and co-operating

2.1 Working with people

Shows respect for the views and contributions of other team members; shows empathy; listens, supports and cares for others; consults others and shares information and expertise with them; builds team spirit and reconciles conflict; adapts to the team and fits in well.

2.2 Adhering to principles and values

Upholds ethics and values; demonstrates integrity; promotes and defends equal opportunities, builds diverse teams; encourages organisational and individual responsibility towards the community and the environment.

3. Interacting and presenting

3.1 Relating and networking

Easily establishes good relationships with customers and staff; relates well to people at all levels; builds wide and effective networks of contacts; uses humour appropriately to bring warmth to relationships with others.

3.2 Persuading and influencing

Gains clear agreement and commitment from others by persuading, convincing and negotiating; makes effective use of political processes to influence and persuade others; promotes ideas on behalf of oneself or others; makes a strong personal impact on others; takes care to manage one's impression on others.

3.3 Presenting and communicating information

Speaks fluently; expresses opinions, information and key points of an argument clearly; makes presentations and undertakes public speaking with skill and confidence; responds quickly to the needs of an audience and to their reactions and feedback; projects credibility.

4. Analysing and interpreting

4.1 Writing and reporting

Writes convincingly; writes clearly, succinctly and correctly; avoids the unnecessary use of jargon or complicated language; writes in a well-structured and logical way; structures information to meet the needs and understanding of the intended audience.

4.2 Applying expertise and technology

Applies specialist and detailed technical expertise; uses technology to achieve work objectives; develops job knowledge and expertise (theoretical and practical) through continual professional development; demonstrates an understanding of different organisational departments and functions.

4.3 Analysing

Analyses numerical data and all other sources of information, to break them into component parts, patterns and relationships; probes for further information or greater understanding of a problem; makes rational judgements from the available information and analysis; demonstrates an understanding of how one issue may be a part of a much larger system.

5. Creating and conceptualising

5.1 Learning and researching

Rapidly learns new tasks and commits information to memory quickly; demonstrates an immediate understanding of newly presented information; gathers comprehensive information to

support decision making; encourages an organisational learning approach (i.e. learns from successes and failures and seeks staff and customer feedback).

5.2 Creating and innovating

Produces new ideas, approaches, or insights; creates innovative products or designs; produces a range of solutions to problems.

5.3 Formulating Strategies and Concepts

Works strategically to realise organisational goals; sets and develops strategies; identifies, develops positive and compelling visions of the organisation's future potential; takes account of a wide range of issues across, and related to, the organisation.

6. Organising and executing

6.1 Planning and organising

Sets clearly defined objectives; plans activities and projects well in advance and takes account of possible changing circumstances; identifies and organises resources needed to accomplish tasks; manages time effectively; monitors performance against deadlines and milestones.

6.2 Delivering results and meeting customer expectations

Focuses on customer needs and satisfaction; sets high standards for quality and quantity; monitors and maintains quality and productivity; works in a systematic, methodical and orderly way; consistently achieves project goals.

6.3 Following Instructions and Procedures

Not challenging authority; follows procedures and policies; keeps to schedules; arrives punctually for work and meetings; demonstrates commitment to the organisation; complies with legal obligations and safety requirements of the role.

7. Adapting and coping

7.1 Adapting and responding to change

Adapts to changing circumstances; tolerates ambiguity; accepts new ideas and change initiatives; adapts interpersonal style to suit different people or situations; shows an interest in new experiences.

7.2 Coping with pressures and setbacks

Maintains a positive outlook at work; works productively in a pressurised environment; keeps emotions under control during difficult situations; handles criticism well and learns from it; balances the demands of a work life and a personal life.

8. Enterprising and performing

8.1 Achieving personal work goals and objectives

Accepts and tackles demanding goals with enthusiasm; works hard and puts in longer hours when it is necessary; seeks progression to roles of increased responsibility and influence; identifies own development needs and makes use of developmental or training opportunities.

8.2 Entrepreneurial and commercial thinking

Keeps up to date with competitor information and market trends; identifies business opportunities for the organisation; maintains awareness of developments in the organisational structure and politics; demonstrates financial awareness; controls costs and thinks in terms of profit, loss and added value.

1.4.2.6 Statistical analysis

For the first three articles of the study, statistical analysis will be done with the aid of the SPSS program (SPSS, 2017) and (Tibco Statistica, 2018). The proposed statistical analysis is discussed along the lines of planned articles:

Article 1: The prediction of the success of first-year MBA candidates: One business school as a case study

Logistic regression analysis will be used to determine the significance of numerical and verbal ability as predictors of successful completion of the first year of the MBA programme. Regression can be applied where Time 1 variables can be used to predict Time 2 outcomes. Logistic regression is particularly suited to cases where the outcome variable is on two levels – in our case, passing or failing the first year of the MBA programme. The analysis will focus on the relation of the cognitive and verbal ability measures, focus of previous education, gender, age and language to academic success over time (i.e. from 2006–2013). To determine which biographical variables should be included in the logistic regression, Chi-square tests for independence will be used to explore the relationship between pass and fail, versus these categorical variables. The correlation between results of MBA first-year subjects and the results of cognitive ability will be

investigated using Pearson's product-moment correlation coefficient, thereby determining which variables are related to MBAI success.

Article 2: The challenge of the business school: Towards enhanced MBA completion and throughput rate

Cross-tabulations will be used to determine the association of biographical variables with successful completion of the of the MBA degree within the allotted time (maximum of 4 years). The correlation between the results of cognitive ability and MBA completion will be investigated using Pearson's rank order correlation coefficient. Logistic regression analysis will be applied to determine the significance and the unique contributions of variables identified above as predictors of MBA completion. Logistic regression is particularly suited to cases where the outcome variable is on two levels – in this case, completing the MBA programme within three or four years, or failing to do so (i.e. dropping out of the programme). Thereafter, stepwise logistic regression will be performed to determine the order of importance of these variables as predictors of MBA completion.

Article 3: Management education and management competencies: What is the relationship over time of managerial competencies to success in a management education programme?

Reliability of the questionnaire were obtained by the calculation of Cronbach's alpha coefficient. Logistic regression analysis was applied to determine the significance and the unique contributions of each the predictors. Logistic regression is particularly suited to cases where the outcome variable is on two levels – in this case, completing the MBA programme within three or four years, or failing to do so (i.e. dropping out of the programme). Thereafter, stepwise logistic regression will be performed to determine the order of importance of the variables as predictors of MBA completion.

1.4.2.7 Data analysis: Article 4

Article 4: Reasons for drop-out and non-completion of studies in an MBA programme: An interpretive phenomenological study

This article will follow a qualitative research design, specifically by the use of an interpretive phenomenological analyses (IPA) approach.

All interviews will be transcribed verbatim by an independent transcriber after each interview. All transcripts will be verified by the researcher to confirm the accuracy of the transcripts before commencing with data analysis. This process will also assist the researcher in a deeper immersion with the data before analyses starts. This process will be employed after each interview

in adhering to the idiographic commitment of IPA's case-to-case analysis (Smith, Flowers & Larkin, 2009). Both the researcher and co-coder will meet after each interview with the aim of sharing and deliberating initial thoughts, insights and interpretive comments through reflecting on both the recording and transcript.

The case-by-case analyses process as suggested by Smith et al. (2009) will be followed. Analysis will commence with a close examination of each interview as interviews are completed, the initial step whereby the researcher will immerse herself in the transcript of a single case. In addition to this, a co-coder, experienced in IPA research, will analyse the transcripts independently, followed by a peer-debriefing meeting after each case analysed. The approach will be followed throughout the entire process with the assistance of Atlas.ti 8 (2019) to add to the manageability and referential adequacy of the analysis process. The following is a step-by-step account of how the process will be employed in this study.

Each case will be read, observations and comments will be noted through the memo-ing and comments function in Atlas.ti and linked to individual transcripts. This will be followed by developing emergent themes by selecting 'chunks' of data relating (linked) to the observational 'notes' of every case, through the coding function of Atlas.ti. At this stage, the emergent themes will be clustered to determine, through reflective engagement, how the data is related. This will be done through the use of the grouping and networking functions of Atlas.ti. At this point the researcher and co-coder will move to the next case where the transcript will be approached afresh through 'bracketing" the previous case for future reference. All participants' transcripts will be approached and analysed in this manner until all the cases are analysed.

All cases will be merged, in a single Altas.ti project in order for the researcher and the co-coder to look for patterns across the different cases and to note the idiosyncratic differences. This will mainly be done through the networking functions of Atlas.ti. At this point, interpretation will move to a deeper level by reviewing themes across the entire data set while highlighting, including and linking the participants' metaphors and temporal referents which will further give meaning of their lived experiences. The final step of this process will be to integrate existing theory and concepts to make further sense of the data.

1.4.2.8 Ethical considerations

One business school in South Africa was consulted from which permission was obtained with the approval of the relevant Institutional Ethical Review Board (IERB). The Faculty Research Meeting assigned the project number EMS14/03/20-02/02 to this study. This acceptance deems the proposed research as being of minimal risk. Ethical considerations of anonymity, confidentiality

and informed consent will be taken into account throughout this study. The research proposal for this study was accepted and permission granted to execute the study.

1.5 Division of chapters

Chapter 1: Research Proposal (including Introduction, Problem statement, Research questions, Objectives, Research Method and References)

Chapter 2; Article 2: The prediction of the success of first-year MBA candidates: One business school as a case study

The prediction of the MBA first year students' success versus failure in the first year will be explored. The largest dropout in the MBA programme happens in the first year of the study and negatively influences throughput figures of the programme.

Chapter 3; Article 3: The challenge of the business school: Towards enhanced MBA completion and throughput rate

Successful completion of MBA candidates in the allotted time will be explored by means of current selection practices and cognitive ability. The accuracy of this combination of variables as predictor of maximal academic performance will be determined.

Chapter 4; Article 3: Management education and management competencies: What is the relationship over time of managerial competencies to success in a management education programme?

Successful completion of MBA candidates in the allotted time will be explored by means of current selection practices managerial competencies. The relationship of this combination of variables as predictor of maximal academic performance will be determined.

Chapter 5; Article 4: Reasons for drop-out and non-completion of studies in an MBA programme: An interpretive phenomenological study.

The reasons for drop-out and non-completion of MBA students will be explored though reflecting on participants' lived experience that led to discontinuation.

Chapter 6: Conclusions, recommendations and limitations

1.6 References

Adendorff, S., & North, C. (2004). Towards an MBA selection model: a South African case study. *Management Today, 20*(8), 40–41.

Alias, M., & Zain, A. F. D. (2006). Relationship between entry qualifications and performance in graduate education. *International Education Journal, 7*(3), 371-378.

ATLAS.ti (2019) Scientific Software Development GmbH, Berlin. https://atlasti.com/legal-info/ Accessed 21 July 2019.

Ball, S. (1982). Motivation. In H. E. Mitzel (Ed.), *Encyclopedia of educational research* (5th ed.) (pp.1256-1263). New York, NY: Macmillan.

Baruch, Y., & Peiperl, M. (2006). The impact of an MBA on graduate careers. *Human Resource Management Journal, 10*(2), 69–90.

Bartram, D. (2011). SHL White paper: Universal competency framework. Retrieved 11 April 2018 from http://connectingcredentials.org/wp-content/uploads/2015/02/The-SHL-Universal-Competency-Framework.pdf

Bennett, R. (2003). Determinants of undergraduate student dropout rate in University business studies department. *Journal of Further and Higher Education, 27*(2), 124–141.

Bennis, W. G., & O'Toole, J. (2005). How business schools lost their way. *Harvard Business Review, 83*(5), 96–104.

Bergh, Z., & Theron, A. (2006). *Psychology in the work context* (3rd ed.). Cape Town: Oxford.

Bisschoff, C. A. (2005). A preliminary model to identify low-risk MBA applicants. *South African Journal of Economic and Management Sciences, 8*(3), 300–310.

Butler, D., Johnson, L., & Forbes, B. (2008). An examination of a skills-based leadership coaching course in an MBA program. *Journal of Education for Business, 83*(4), 227–232.

Chemers, M. M., Hu, L., & Garcia, B. F. (2001). Academic self-efficacy and first year College performance and adjustment. *Journal of Educational Psychology, 93*(1), 55–64.

Christensen, D. G., Nance, W. R., & White, D. W. (2012). Academic performance in MBA programs: do prerequisites really matter? *Journal of Education for Business, 87*(1), 42–47.

Department of Higher Education and Training ***see*** South Africa. Department of Higher Education and Training.

DeSchields, O. W., Jr., Kara, A., & Kaynak, E. (2005). Determinants of business student satisfaction and retention in higher education: applying Herzberg's two-factor theory. *International Journal of Educational Management, 19*(2), 128–139.

Dreher, G. F., & Ryan, C. (2000). Prior work experience and academic achievement among first-year MBA students. *Research in Higher Education, 41*(4), 505–525.

Dreher, G. F., & Ryan, C. (2002). Evaluating MBA program admission criteria: The relationship between pre-work MBA work experience and post-MBA outcomes. *Research in Higher Education, 43*(6), 727–744.

The Qualitative Report Volume 8 Number 4 December 2003 597-607. Retrieved from http://www.nova.edu/ssss/QR/QR8-4/golafshani.pdf

Hausdorf, P. A., LeBlanc, M. M., & Chawla, A. (2003). Cognitive ability testing and employment selection: does test content relate to adverse impact? *Applied H.R.M. Research, 7*(2), 41–48.

Harvard Business School. (2017). Admissions: who are we looking for? Retrieved from https://www.hbs.edu/mba/admissions/Pages/who-are-we-looking-for.aspx

Kettunen, J. (2003). The length of study of MBA students. *International Journal of Lifelong Education, 22*(2), 159–171.

Kotze, M., & Griesel, L. (2008). Predicting the academic performance of MBA students by means of specific aptitudes and competencies*. Journal for New Generation Sciences, 6*(2), 60–79.

Linnenbrink, E. A., & Pintrich, P. R. (2002). Motivation as an enabler for academic success. *School Psychology Review, 31*(3), 313–327.

Maehr, M., & Meyer, H. A. (1997). Understanding motivation and schooling: where we've been, where we are, and where we need to go. *Educational Psychology Review, 9*(4), 371–-409.

Marx, M. (1960). Motivation. In L. W. Harris (Ed.), *Encyclopedia of educational research* (3rd ed.). (pp. 888-901). New York, NY: Macmillan.

Mihail, D. M., & Elefterie, K. A. (2006). Perceived effects of an MBA degree on employability and career advancement: the case of Greece. *Career Development International, 11*(2), 353–361.

Ministry of Education ***see*** South Africa. Ministry of Education.

Moerdyk, A. (2009). *The principles and practice of psychological assessment*. Pretoria: Van Schaik.

Navarro, P. (2008). The MBA core curricula of top-ranked US business schools: a study in failure? *Academy of management learning & education, 7*(1), 108–123.

Nelson Mandela Metropolitan University Business School. (2017). *MBA psychometric testing and interviews*. Retrieved from http://mba.nmmu.ac.za/content/mba-psychometric-testing-interviews

NMMU see Nelson Mandela Metropolitan University Business School.

NWU (North-West University). (2017). *General academic rules*. Retrieved from http://www.nwu.ac.za/sites/www.nwu.ac.za/files/files/i-governance-management/policy/7P-Arules2017_e1.pdf

Printrich, P., & Schunk, D. (2002). *Motivation in education: theory, research and applications* (2nd ed.). Upper Saddle, NJ: Prentice Hall.

Schreuder, A. M. G., & Theron, A. L. (2001). *Careers: An organisational perspective* (2nd ed.). Cape Town: Juta.

SHL. (2009). *Objective assessment in MBA selection*. South Africa Research Series. SHL Group Limited. Retrieved from http://companydata.inoxico.com/research-reports/South-Africa/SHL-Saville-and-Holdsworth-(Pty)-Ltd/

SHL. (2018). *Occupational Personality Questionnaire (OPQ): OPQ reimagined*. Retrieved from https://www.shl.com/en/assessments/personality/shl-occupational-personality-questionnaire-opq/

Smith, J. A., Flowers, P., & Larkin, M. (2009). *Interpretative phenomenological analysis: theory, method and research*. London: Sage.

Smith, J. A., & Osborn, M. (2008). Interpretative phenomenological analysis. In J. Smith (Ed.), *Qualitative psychology: a practical guide to research methods* (pp. 53-80). London: Sage.

South Africa. Department of Higher Education and Training. (2012). *Annual Report*. Pretoria: Ministry of Higher education.

South Africa. Ministry of Education. (2001). *Draft National Plan for Higher Education in South Africa*. Pretoria: Government Printer.

SPSS. 2017. IBM SPSS Statistics Version 25, Release 23.0.0, Copyright©. IBM Corporation and its licensors. Retrieved from http://www-01.ibm.com/software/analytics/spss/

Stanford Graduate School of Business. (2017). *Admission process*. Retrieved from https://www.gsb.stanford.edu /programs/mba/financial-aid/international-students/stanford-africa-mba-fellowship/application

Tibco Statistica. (2018). Tibco Statistica, version 13.3. Retrieved from www.statsoft.com.

University of Stellenbosch. Business School. (2017). *Selection tests*. Retrieved from http://www.usb.ac.za/ MBA/Pages/SHL-or-GMAT.aspx

Van Bragt, A. C., Bakx, W. E. A., Bergen, C. M., & Croon, M. A. (2011). Looking for student's personal characteristics predicting study outcome. *Higher Education 61*(1): 59–75. doi: 10.1007/s10734-010-9325-7

Van der Merwe, D., & De Beer, M. (2006). Challenges of student selection: predicting academic performance, *South African Journal of Higher Education, 20*(4), 547–562.

Weiner, B. (1990). History of motivational research in education. *Journal of Educational Psychology*, *82*(4), 616–622.

Yang, B., & Lu, D. R. (2001). Predicting academic performance in management education: an empirical investigation of MBA success. *Journal of Education for Business, 77*(1)*,* 15-20.

Young, P. T. (1941). Motivation. In W. S. Monroe (Ed.), *Encyclopedia of educational research* (pp. 735-742). New York, NY: Macmillan.

CHAPTER 2 – ARTICLE 1

This manuscript has already appeared in publication:

Scholtz, E.M., & Pienaar, J. (2018). The prediction of the success of first-year MBA candidates: One business school as a case study. *South African Journal of Higher Education 32*(5), 270-288.

Link to article:

https://www.journals.ac.za/index.php/sajhe/article/view/2590

CHAPTER 2 - ARTICLE 1:
THE PREDICTION OF THE SUCCESS OF FIRST-YEAR MBA CANDIDATES: ONE BUSINESS SCHOOL AS A CASE STUDY

ABSTRACT

The focus of this study was to determine the best predictors of academic success of first-year MBA students. Selection criteria and variables are tested for the reliable prediction of successful completion of the first year of an MBA programme (MBAI). A longitudinal quantitative research design is followed using data of students from a South African business school, enrolled between the years 2006 and 2013. The study population consisted of a total of *N*=777 students enrolled on the MBA programme for this period. Numerical- and verbal cognitive ability assessments gathered as part of enrolment assessment were used and compared to MBAI examination results. Logistic regression analysis was used to determine the significance of different variables to predict MBA first-year success, defined here as the successful completion of all first-year MBA modules within the first academic year. Results indicate that cognitive ability is related to MBA first-year success. The numerical was a better predictor than the verbal cognitive assessment. Type of undergraduate education was found to play a role in MBA first-year success. Language of delivery proved to have an influence on academic performance and Younger students performed better than their older counterparts did. Determining the best predictors MBA first-year success has practical implications on selection processes and throughput.

Keywords: MBA, academic success, prediction, academic performance, pass-rate, cognitive ability, assessment, verbal ability, numerical, drop-out, selection practices

INTRODUCTION

Internationally, the popularity of a Master of Business Administration (MBA) has been evidenced in the escalation of MBA graduates over the last 50 years (Butler, Johnson and Forbes 2008). Even so, criticism of the MBA programme is ample, concerning factors such as selection practices, employability and career advancement of graduates, curricula as well as necessary skills offered (Mihail and Elefterie 2006; Navarro 2008; Dreher and Ryan 2002; Bennis and O'Toole 2005; Srikant et al. 2011).

To address the controversy towards MBA selection practices, some studies have been conducted to identify the most accurate approach in predicting academic performance in educational institutions, particularly those of business school graduates (Dreher and Ryan 2002; Bennett 2003; Furnham, Chamorro-Premuzic and McDougall 2003). These approaches include *cognitive ability* (Hoefer and Gould 2000; Dobson, Krapljan-Barr and Vielba 1999; Schwartz, Strowe and Sendall 2008; Hancock 1999; Hill et al. 2011; Terry, Owens and Cooley 2009; Kotze and Griesel 2008), *personality* (Van Bragt et al. 2011; DeSchields, Kara and Kaynak 2005;

Chemers, Hu and Garcia 2001; Whittingham 2006), *competency profiling* (Adendorff and North 2004) and *grade point average* (GPA) (Schwartz et al. 2008; Christensen, and Nance 2012; Braunstein 2006; Yang and Lu 2001).

Within the South African context, the challenges business schools face are similar to that of international business schools. One of the great concerns highlighted in recent years in South Africa concerns the throughput rate and academic performance of MBA students. The National Plan of the Ministry of Education required either education institutions to improve the efficiency of graduate outputs as a matter of priority (Ministry of Education 2001). Eleven years later, the Ministry of Higher Education observes in their annual report (2012), that massive investments in the higher education system have not produced better outcomes in the level of academic performance or throughput rates. However, the increased production of master's and doctoral graduates is essential in producing the next generation of academics and researchers.

Previous studies on academic performance and throughput rate found that the largest student dropout happens in the first year of study. Dreher and Ryan (2000) opine that the success of first-year MBA students holds consequences for the reputation of business schools, throughput rates and the design of curricula. McKenzie and Schweitzer (2001) studied the factors that influence academic performance of Australian first-year students and note factors such as increasing diversity among students and the expansion of Australian universities, with the objective to improve first-year pass rate. Bisschoff (2005) found the largest drop out in the first year of MBA studies in a South African business school, and notes this to be of great concern to the institution concerning throughput, financial implications and the negative impact financially and psychologically on students who fail the first year.

Against this background, selection processes and the accuracy of the selection criteria as predictors of MBA success have been in contention, resulting in some South African studies in search of answers to these problems (Adendorff and North 2004; Van der Merwe and De Beer 2006; Kotze and Griesel 2008). South African business schools make use of different selection systems. Adendorf and North (2004) found that some merely select according to minimum admission requirements, while others use the Graduate Management Admissions Tests (GMAC 2012) in addition to the minimum admission requirements. Ability assessments (verbal critical reasoning and numerical critical reasoning) are used by the University of Stellenbosch Business School (USB 2017), Nelson Mandela Metropolitan University Business School (NMMU 2017), and the North-West University School of Business and Governance (NWU 2017). These trends are also evident in international business schools (Bisschoff 2005; Harvard Business School 2017; Stanford Graduate School of Business 2017). The link between these selection practices and actual

academic success in the MBA programme is, however, not that firmly established.

Not many studies exist that firmly and empirically establish the link between selection measures and academic success, and only a few of these studies were within the South African context. As the first year proves critical (Bisschoff 2005), it is also noteworthy that not many studies focus specifically on the success of first-year MBA (MBAI) students. Further shortfalls in the available literature on this research topic are that these studies did not have an evidently strong research design including cognitive and verbal ability and the success of MBAI students, and were not done longitudinally. Past South Africa and International studies, was based on cross-sectional data and did not include predictors of MBA academic success. The current study will thus extend existing knowledge on the topic by investigating the predictors used in selection process, namely numerical and verbal cognitive assessments, and subsequent academic success. The present study's contribution is to address some of the noted shortfalls by making use of longitudinal data covering a period of *eight years*, measurements of both a cognitive and verbal ability assessment as predictors, and defines MBA success objectively, as indicated by the official MBA academic results for the indicated period.

PREDICTORS OF MBA SUCCESS

Success is a broad term that is frequently used in the educational environment to describe the mastering of numerous different academic outcomes (York, Gibson and Rankin 2015). For the purpose of this study, first-year MBA success is defined as the successful completion of all first-year MBA modules within the first academic year. The importance for business schools to enrol prospectively successful MBA students has been emphasised by several studies. In this regard, successfully completing the first year of study appears critical, as it is also the academic year that shows the highest levels of dropout from the MBA (Dreher and Ryan 2000; McKenzie and Schweitzer. 2001; Bisschoff 2005). Several factors related to academic performance have been identified in the literature. Among the most prominent of these are cognitive ability, previous education, gender, language and age.

Cognitive ability

The most commonly used cognitive ability assessment in MBA selection internationally is the Graduate Management Admissions Test (GMAT). The GMAT assessment measures quantitative, verbal, analytical writing, and integrated reasoning skills. The Graduate Management Admission Council (GMAC 2012) describes the different components of the test as follows: The *quantitative* section measures ability to reason quantitatively and solve quantitative problems. Basic knowledge

of arithmetic, algebra, and geometry is required. The *quantitative* section is a test of reasoning and not the underlying math skills. The *verbal* section measures ability to read and comprehend written material, to reason and evaluate arguments, and to correct written material to convey meaning effectively in standard written English. The *analytical writing* assessment measures ability to think critically and communicate ideas through writing. Finally, the *integrated reasoning* section measures ability to interpret and analyse data from different sources and presented in different formats, to solve problems.

Many studies have been conducted exploring the accuracy of the GMAT as a predictor of MBA success. Hill et al. (2011) and Terry et al. (2009) found the GMAT to be a reliable predictor. Similarly, Hoefer and Gould (2000) found the GMAT ability assessment to be a reliable predictor of academic performance, but suggest that qualitative predictors of performance should also be considered. Conversely, Dobson et al. (1999) found that GMAT-*verbal* is a good predictor of MBA examination performance, but that GMAT-*quantitative* is not. Schwartz et al. (2008) found a significant positive correlation between graduate GPA and the GMAT-*quantitative* score, while Clayton and Cate (2004) found GMAT played no role in MBA success. These inconclusive findings indicate that further research is necessary to determine the accuracy of prediction of academic performance by the GMAT specifically, but perhaps also cognitive ability more generally, as a predictor of academic performance.

Besides the GMAT, alternative cognitive assessment tools are available and applied by South African business schools as selection instruments. Within the South African context, Kotze and Griesel (2008) found verbal and numerical aptitude has a significant correlation with academic performance, of which numerical aptitude had higher significance. Adendorff and North (2004) found that both numerical and verbal skills were accurate predictors of MBA success.

Focus of previous education

The most prominent prerequisite for enrolment onto the MBA programme is a three- or four-year Bachelor's (undergraduate) degree. Ahmadi, Raiszadeh and Helms (1997) found that students with more than three years' undergraduate studies performed better academically than students with two years of undergraduate studies. Braunstein (2006) and Truitt (2002) explored whether students with majors in business studies performed better that students with non-business qualifications, and found no difference in the academic performance of these two groups. Conversely, Sulaiman and Mohezar (2006) found that students with business and management qualifications performed better than students from other disciplines. Alias and Zain (2006) also found that type of undergraduate qualification is related to performance in graduate programmes and concludes that

grade point average (GPA) in the same field of study is a better predictor than GPA from different fields of study.

Grade point average (GPA) as predictor of academic success in the MBA has commonly been used in selection processes for the MBA programme, even though the accuracy thereof has been shown to be inconsistent. Braunstein (2006) found the two most significant variables in predicting MBA academic performance to be GPA and the Graduate Management Admissions Test (GMAT). Yang and Lu (2001) found undergraduate grade point average (GPA) to be the most accurate predictor of MBA academic performance. Christensen and Nance (2012) support the finding of undergraduate GPA as an accurate predictor of MBA success, and also found undergraduate written composition to be positively correlated with GPA during the course of the MBA. Contrastingly, Truitt (2002) found that GPA was not statistically significant in the prediction of MBA academic performance. Given these somewhat inconsistent results, the authors opted to focus on prior education, rather than GPA, as predictor of success in MBAI.

BIOGRAPHICAL CONTROLS FOR (ACADEMIC) SUCCESS

In exploring *gender* differences in MBA performance, Hancock (1999) found that although men performed significantly better in a verbal selection assessment, there was no difference in MBA academic performance regarding gender. With this in mind, he contemplates that women might be at a disadvantage if the GMAT score were to be used as only admission requirement to the MBA programme. Hancock (1999) further argues that there is no strong case for the relationship between GMAT and MBA performance. Sulaiman and Mohezar (2006) also found that gender does not predict MBA success, nor ethnicity or age. In contrast, Ahmadi, Raizadeh and Helms (1997) found a positive correlation between age and academic performance; while gender and race were found to be insignificant variables.

Academic performance of international students and the language barrier they face have become a topic of interest for academic performance in post-graduate studies. According to Berman and Cheng (2001), language is a great challenge to international students at English-speaking universities, especially in the first year of study, resulting in lower academic performance. In support, Woodrow (2002) found that students within the Australian educational context with low English proficiency were negatively influenced in academic performance of first semester studies. Dooey and Oliver (2002) found that proficiency in English reading had an influence on academic success, but caution that language is not the only factor that influences the academic success of non-native English speakers. These findings have particular relevance to the South African situation, where the language of delivery at most tertiary institutions is English and

a few in Afrikaans. South Africa is a multilingual country with a rich and diverse source of languages of which there are between 24 and 30 languages spoken. After 1994, with the birth of democracy, South Africa declared a policy of official multilingualism in its Constitution concerning language. Nine major African languages (isiNdebele, Sesotho sa Leboa, Sesotho, Siswati, Xitsonga, Setswana, Tshivenda, isiXhosa and isiZulu) together with English and Afrikaans were declared as official languages at national level (Finlayson and Madiba 2002). However, less than 10 per cent of the population has English as their first, and only 13.5 per cent Afrikaans, as their first language (Census 2011).

Based on the noted findings above, we opted to control for gender, age and language in our analysis. The objective of the current study is therefore to gain a deeper understanding of the academic success of MBAI students. The variables used to predict success is a measure of cognitive ability, focus of prior education, gender, home language and age.

RESEARCH METHOD

Research design

The study made use of a quantitative research design. A large data bank is available that can be quantified and summarised, and the final results will be expressed statistically. The data consists of statistics of MBA students enrolled at a business school between 2006 and 2013. Cognitive assessments have been part of the selection process for all MBA applicants from 2006, and will be compared to MBA academic results from 2006 to 2013. Various biographical indicators are available as controls.

Measuring instruments

A cognitive ability measure developed by SHL (founded by Saville and Holdsworth) was used as measuring instrument. The instrument consists of two questionnaires, assessing both *numerical reasoning* and *verbal reasoning* ability.

Numerical reasoning: This questionnaire measures the ability to make correct decisions or inferences from numerical data. The data represented and the tasks set are relevant to a business environment. The emphasis in these tasks falls upon understanding and evaluating data, rather than upon computation. The questionnaire consists of 35 questions with a time limit of 35 minutes.

Verbal reasoning questionnaire: This questionnaire measures the ability to evaluate the logic of various kinds of arguments. The information presented is relevant to a business environment. The test emphasises understanding, using and evaluating verbal information rather than language

usage, spelling or grammar. The questionnaire consists of 48 questions with a time limit of 25 minutes.

Studies were conducted to ensure that these instruments comply with South African legislation for validity, reliability and unbiased assessment (SHL 2009). The first validation study reported on, consisted of a sample that complied with the Employment Equity Act of 1998 to include African, coloured and Indian students of equal distribution (SHL 2009). Positive, statistically significant correlations of moderate to large effect size were found between the results of the numerical and verbal assessment in comparison with the MBA results of four modules (SHL 2009), proving the instruments to be reliable and appropriate for use in South Africa.

Biographical data was collected through the databank of enrolment at the specific business school for MBA students between the years 2006 to 2013. Students completed biographical details with application for enrolment onto the MBA programme. Variables analysed in this study include focus of previous education, gender, age and home language.

Participants

The total population of MBA first-year students of a South African business school enrolled for the academic years 2006 to 2013 is used for the research. A total of N=777 students represent the research population. Six full MBA cycles of MBA phase III had been completed in the time frame from June 2006 to November 2013, while eight phases of MBAI students had completed their first year. Table 1 portrays the population indicating the eight phases of MBAI students and drop-out rates in the different years of the MBA programme.

The largest drop-out of 289 students is lost from the first year of MBA to the second year. In the eight phases of MBAI of this study population, it amounts to 37 per cent, which has a significant influence on throughput figures of the programme.

Table 1: Available study population: MBA cycles from 2006–2013 (N=777)

Years	2006	2007	2008	2009	2010	2011	2012	2013
1	MBA I *n* = 91	MBA II *n* = 70	MBA III *n* = 58	MBA IV *n* = 25				
2		MBA I *n* = 103	MBA II *n* = 73	MBA III *n* = 62	MBA IV *n* = 20			
3			MBA I *n* = 103	MBA II *n* = 84	MBA III *n* = 72	MBA IV *n* = 23		
4				MBA I *n* = 120	MBA II *n* = 83	MBA III *n* = 82	MBA IV *n* = 17	
5					MBA I *n* = 79	MBA II *n* = 73	MBA III *n* = 67	MBA IV *n* = 18
6						MBA I *n* = 108	MBA II *n* = 81	MBA III *n* = 72
7							MBA I *n* = 109	MBA II *n* = 82
8								MBA I *n* = 122

n (MBA1) = 835
n (MBA2) = 546 (289 drop outs)
n (MBA3) = 413 (133 drop outs)
n (MBA4) = 103 (did not complete in 3 years)

DATA ANALYSIS

Statistical analysis was done with the aid of the SPSS program (SPSS 2017). Logistic regression analysis was used to determine the significance of numerical and verbal ability as predictors of successful completion of the first year of the MBA programme. Regression can be applied where Time 1 variables can be used to predict Time 2 outcomes. Logistic regression is particularly suited to cases where the outcome variable is on two levels – in our case, passing or failing the first year of the MBA programme. The analysis will focus on the relation of the cognitive and verbal ability measures, focus of previous education, gender, age and language to academic success over time (i.e. from 2006–2013). To determine which biographical variables should be included in the logistic regression, Chi-square tests for independence were used to explore the relationship between pass and fail, versus these categorical variables. If the p-value was less than or equal to the 0.05 level of significance, the variable was deemed to have significant influence on MBAI success, and was included in the logistic regression analysis.

The correlation between results of MBA first-year subjects and the results of cognitive ability was investigated using Pearson's product-moment correlation coefficient, thereby determining which variables are related to MBAI success.

Concerning previous education, it was decided to categorise these qualifications as numerically based- and non-numerically-based qualifications. The category of numerically-based qualifications is students with a BCom, BSc, BPharm, BSTA, BTech and LLB qualification, or a post-graduate level of qualification. Non-numerically-based qualifications are students with a BA in languages, communication, theology, philosophy, agriculture and education, which are not overwhelmingly based on numerical knowledge.

The authors' reasoning was that for specific categories (say BCom with Accounting), there

were too few cases within small categories. Further motivation behind this was that previous studies identified that *focus* of prior education have an influence on academic performance of post-graduate studies (Truitt 2002; Braunstein 2006; Sulaiman and Mohezar 2006; and Alias and Zain 2006) as discussed under *focus of previous education* above.

The population of the study consisted of students with various *languages* as home language, namely English (128), Afrikaans (410) and various African languages of which Sesotho (77) and Setswana (50) had the largest representation. Following that, isiZulu (26) and isiXhosa (25) had large representation. For these and historical reasons, it was decided to categorise language as English and Afrikaans (category 1), and other languages (category 2).

RESULTS

Biographical characteristics of study population

Biographical data includes *gender, home language, age,* and *educational qualification*. Biographical characteristics of the study population are indicated in Table 2 below. Table 2 also provides information on the success (pass) or fail rate of the first year of the MBA.

Table 2: Biographical characteristics of the study population (N= 777)

			MBA FIRST-YEAR SUCCESS		p-value	Cramer's V
			Pass	Fail		
Gender	Male	556 72%	178 80.5%	43 19.5%	.918	.004
	Female	221 28%	446 80.2%	110 19.8%		
Language	English/Afrikaans first language	646 83%	527 82.0%	119 18.4	<0.001	.229
	Other first language	131 17%	97 74.0%	34 26.0%		
Age category	20–25	47 6.04%	42 89.4%	5 10.6%	<.001	.212
	26–30	202 25.9%	178 88.1%	24 11.9%		
	31–35	185 23.8%	148 80.0%	37 20%		
	36–40	177 22.7%	145 81.9%	32 18.1%		
	41–45	96 12.3%	70 72.9%	26 27.1%		
	46–60	70 9.0%	41 58.6%	29 41.4%		
Former education	Numerically-based qualification	369 47.4%	308 83.5%	61 16.5%	.004	.138
	Non-numerical qualifications	78 10.0%	54 30.8%	24 30.8%		

Of the 777 participants, 28 per cent were female and 72 per cent male. Of the 221 females, 80.2 per cent passed the first year of the MBA programme, while 19.8 per cent failed. Of the 556 males,

80.5 per cent passed and 19.5 per cent failed. A Chi-square test for independence indicated no significant association (p=0.918) between gender and success in the first year of the MBA. Therefore, gender was not further considered as a predictor.

Language

Of the 777 (N=777) participants, the home languages of English or Afrikaans represent 83 per cent of the sample, while 17 per cent of the home languages were other than English or Afrikaans. Of the students with English or Afrikaans as home language, 82 per cent passed the first year of the MBA programme and 18.4 per cent failed. Of the students with other home language than English or Afrikaans, 74.0 per cent passed, and 26 per cent failed. A Chi-square test for independence (p<0.001) and Cramer's V at .229 indicated an association with medium effect between language and MBAI success, so that students with English or Afrikaans had a significantly lower representation in the fail category.

Age

Of the 777 (N=777) MBAI students, 47 (6.04%) were between the ages of 20 and 25, 202 (25.9%) were between the ages 26 and 30, 185 (238%) were between the ages 31 and 35, 177 (22.75) were between ages 36 and 40, 96 (12.3%) were between ages 41 and 45 and 70 (9.0%) between ages 46 and 60. The age group between 26 and 30 is the largest component of 25.9% of the population, while the smallest component of students was between the ages 46 and 60. The results show that the pass rate of the youngest students, between 20 and 25, is the highest pass rate (89.4%), while the pass rate of age category 46 and 60 is the lowest (58.6%). A Chi-square test for independence (p<0.001) and Cramer's V value of .212 for age indicate a medium significant association between age and MBAI success, so much so that younger individuals were more likely to be successful.

Focus of previous education

Of the 777 (N=777) participants, 369 (47.4%) had what was categorised as a numerically-based qualifications, while 78 (10.0%) had non-numerical qualifications. Of the 369 students with numerically-based qualifications, 83.5 per cent passed and 16.5 per cent failed. Of the 78 participants with qualifications classified as non-numerical, 69.2 per cent passed and 30.8 per cent failed. The students with numerically-based qualifications had the highest pass rate (83.5%), while the pass rate of students with non-numerical qualifications was 69.2 per cent. A Chi-square test for independence (p=0.004) and Cramer's V value of .138 for former education indicate a medium significant association between former education and MBAI success.

Relationship between variables and academic success

Numerical cognitive ability, verbal cognitive ability and the average between the two were correlated separately to determine which of these assessments proved to be the most reliable predictor of MBAI success or failure. Next, correlations between the different first-year MBA subjects and cognitive and verbal ability, and their average are computed, in order to investigate which ability relates to which subjects as portrayed in Table 3.

Table 3: Correlation between results of MBAI examination and cognitive and verbal ability, and their average

		Numerical cognitive assessment	Verbal cognitive assessment	Average between numerical- and verbal cognitive assessment
Financial accounting	Pearson correlation	.523**	.231**	.456**
	Sig. (2-tailed)	.000	.000	.000
	N	718	715	720
Managerial statistics	Pearson correlation	.481**	.303**	.460**
	Sig. (2-tailed)	.000	.000	.000
	N	718	715	720
Organisational behaviour	Pearson correlation	.337**	.263**	.327**
	Sig. (2-tailed)	.000	.000	.000
	N	718	715	720
Labour relations	Pearson correlation	.373**	.222**	.337**
	Sig. (2-tailed)	.000	.000	.000
	N	718	715	720
Information management	Pearson correlation	.327**	.243**	.321**
	Sig. (2-tailed)	.000	.000	.000
	N	717	714	719
Managerial economics	Pearson correlation	.433**	.291**	.423**
	Sig. (2-tailed)	.000	.000	.000
	N	716	713	718

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

The results as portrayed in Table 3 indicate a large positive correlation between numerical cognitive ability and Financial accounting with a coefficient of r =.523, which is significant at p<.001 (as indicated by the double asterisk after the coefficient). The relationship between the numerical cognitive assessment and the rest of the subjects has medium strength and is significant at p<.001. The correlation between the verbal numerical assessment and the first-year MBA subjects indicates a small correlation between verbal cognitive assessment and the rest of the subjects with the lowest correlation of r = .222 with Labour relations and the highest correlation with Managerial economics with r = .291, which are also significant at p<.001.

In Table 4, the predictive value of age, language, former education, and verbal and numerical cognitive assessments towards academic success was examined.

Table 4: Logistic regression prediction likelihood of passing MBAI with numerical cognitive assessment as predictor of MBAI success

Variables in the equation	B	S.E.	Wald	df	Sig.	Odds ratio	95.0% C.I. for odds ratio	
							Lower	Upper
Age	-0.228	0.095	5.759	1	0.016*	0.796	0.661	0.959
Language	0.152	0.319	0.227	1	0.633	1.165	0.623	2.178
Former education	-0.599	0.326	3.375	1	0.066*	0.549	0.290	1.041
Numerical cognitive assessment	0.858	0.191	20.249	1	0.000*	2.359	1.623	3.429
Constant	2.535	0.462	30.097	1	0.000	12.617		

* Significant at the 0.05 level

Direct logistic regression was performed to assess the predictive value of five independent variables (age, language, former education and numerical cognitive assessment as predictor of MBAI success). The results in Table 4, regarding *age*, indicate that the chances of a student to pass the first year of MBA were 0.796 more for each age category (see Table 2) that a student is younger, which is statistically significant although the odds ratio is not practically important. The numerical cognitive assessment indicated that with every 1 mark scored higher in the assessment, students had a 2.359 higher chance to pass the first year of MBA, which is statistically significant and would also result in an important effect in practice for a larger increase in marks.

In Table 5, the predictive value of age, language, former education, and verbal and numerical cognitive and the average of cognitive assessment and verbal cognitive assessments towards academic success were examined.

Table 5: Logistic regression prediction likelihood of passing MBA I with verbal cognitive assessment as predictor of MBAI success

Variables in the equation	B	S.E.	Wald	df	Sig.	Odds ratio	95.0% C.I. for odds ratio	
							Lower	Upper
Age	-0.244	0.094	6.722	1	0.010*	0.783	0.652	0.942
Language	0.728	0.289	6.325	1	0.012*	2.071	1.174	3.651
Former education	-0.811	0.320	6.425	1	0.011*	0.444	0.237	0.832
Verbal cognitive assessment	0.374	0.150	6.189	1	0.013*	1.454	1.083	1.952
Constant	2.113	0.437	23.358	1	0.000	8.271		

* Significant at the 0.05 level

Direct logistic regression was performed to assess the predictive value of five independent

variables (age, language, former education and verbal cognitive assessment) as predictor of MBAI success. The results in Table 5, regarding *age,* indicate that the chances of a student to pass the first year of MBA were 0.783 more for each age category that a student is younger, which is statistically significant, but the odds ratio is not practically important. Language as predictor of MBAI success indicates that the chances to pass were 2.071 higher for students with English or Afrikaans as home language – which is statistically significant, and the odds ratio of practical importance. Regarding former education, the indication is that students with numerically-based qualifications had a 0.444 higher chance to pass the first year of MBA compared to students with a numerical qualification, and that this is statistically significant. The verbal cognitive assessment indicated that with every 1 mark scored higher in the assessment, students had 1.454 a higher chance to pass the first year of MBA, which is statistically significant and would also result in an important effect in practice for a larger increase in marks. Results for language indicate that students with English and Afrikaans as home language were 2.071 times more likely to be in the pass category than students of other languages.

Table 6 presents the predictive value of age, language, former education, and the average of the numerical- and verbal cognitive assessments towards academic success.

Table 6: Logistic regression prediction likelihood of passing MBAI with the average of numerical and verbal cognitive assessment as predictor of MBAI success

	B	S.E.	Wald	df	Sig.	Odds ratio	95.0% C.I. for odds ratio	
							Lower	Upper
Age	-0.224	0.095	5.558	1	0.018*	0.799	0.664	0.963
Language	0.372	0.307	1.470	1	0.225*	1.451	0.795	2.647
Former education	-0.658	0.326	4.068	1	0.044*	0.518	0.273	0.982
Average of numerical and verbal cognitive assessment	0.721	0.177	16.512	1	0.000*	2.057	1.453	2.913
Constant	2.350	0.450	27.300	1	0.000	10.489		

*Significant at the 0.05 level

The results in Table 6, regarding age, indicate that the chances of a student to pass the first year of MBA were 0.799 more for each year that a student is in a lower age category. The result was statistically significant, although not practically important. Language as predictor of MBAI success indicates that the chances to pass were 1.451 higher for students with English or Afrikaans as home language, which is statistically significant and the odds ratio of practical importance. Regarding former education, the indication is that students with numerically-based qualifications had a 0.518 higher chance to pass the first year of MBA than students with a numerical qualification, which is statistically significant, but the odds ratio is not of practical importance.

The average of the numerical and verbal cognitive assessment indicated that with every 1 mark scored higher on average in the assessment, students had a 2.057 times higher chance to pass the first year of MBA, which is statistically significant and would also result in an important effect in practice for a larger increase in marks.

DISCUSSION

The aim of this study was to determine the predictors of MBAI success and explore current selection processes and prerequisites to the MBA programme. Precedent variables used in selection processes are controversial and results in literature exploring reliable predictors of MBA success proved to be inconclusive. Very few studies in this field focus on MBA *first-year success.* Data from the current study showed that the largest dropout in the MBA programme occurs in the first year of MBA (as portrayed in Table 1), which served as further motivation for the study.

Cognitive ability is widely used as selection instrument for MBA programmes. The current study confirms *cognitive ability* to be a reliable predictor of MBA first-year success. After assessing the predictive value of the verbal cognitive assessment, numerical cognitive assessment and the average of cognitive- and numerical cognitive assessments towards academic success were examined, the numerical cognitive assessment as variable proved to have the highest odds ratio overall in terms of of MBAI success. This is in line with previous South African findings by Kotze and Griesel (2008). Overall, this supports literature that found *cognitive ability* to be an accurate predictor of MBA academic performance (Hill et al. 2011; Terry et al. 2009; Clayton and Cate 2004; Hoefer and Gould 2000; Schwartz et al. 2008).

Regarding biographical predictors of MBA1 success, age was found to be statistically significant in all the analyses, and although the odds ratio was not practically important, younger students consistently fared better than older students did. Peiperl and Trevelyan (1997), and Ahmadi, Raiszadeh and Helms (1997), argue that younger students have been subjected to an academic environment more recently, which could be the explanation for them performing better than older students. This contradicts the belief that older MBA students have more to contribute in experience and knowledge and that work experience adds value to academic performance. Ekpenyong (2000) also found that younger students performed better in a Nigerian study with age and experience as covariates. The study found no difference in academic performance between male and female students, echoing much previous research (Dreher and Ryan 2000; Dreher and Ryan 2004; Sulaiman and Mohezar 2006).

This study confirmed *former education* to be a reliable predictor to MBA1 success. The indication was that students with a Bachelor's qualification in numerically-based subjects (defined as students with a BCom, BSc, BPharm, BSTA, BTech, LLB, master's and PhD qualifications,

which all have a broad base of numerically-based knowledge) had a significantly better chance to pass the first year of MBA than students with non-numerically-based qualifications (defined as students with BA in languages, communication, theology philosophy, agriculture and education, which are not based on numerical knowledge). This supports the findings of Sulaiman and Mohezar (2006), and Alias and Zain (2006). The curriculum of the MBA1 programme of the study population of the current study has three numerically-based modules, namely Financial accounting, Managerial statistics and Managerial economics. This could have had an influence on the MBA1 pass rate of students with *former qualifications in* non-numerically-based fields of study.

Belonging to the English and Afrikaans language group was identified as a factor that influenced academic success in a South African business school. Firstly, this might not be as surprising, given that this is the dominant languages of instruction, despite national language demographics (Census 2011). This finding supports studies on English language proficiency and academic success within international contexts (Berman and Cheng 2001; Woodrow 2002; Dooey and Oliver 2002; Poyrazli et al. 2011). Educators are aware of the challenge these demographics bring in language of delivery at tertiary institutions (Finlayson and Madiba 2002), but clearly, much work remains to be done.

RECOMMENDATIONS

Selection criteria to predict MBAI success analysed in this study proved that some criteria in selection models were less reliable than others, which may suggest that selection processes of business schools need to be reviewed.

Cognitive ability as part of the selection programme used by many business schools proved to be a reliable and robust predictor of MBA academic performance. *Numerical cognitive ability* proved to be a better predictor than the *verbal ability assessment*, which might have a link to the curriculum and field of study of the MBA programme. It should especially be noted that in the evaluated programme, subject matter in the first year of study is also skewed towards numerical subjects (for example, Statistics and Accounting). A recommended solution might be a more equal spread of numerically-based modules of the MBA curriculum to improve the MBAI pass rate.

A bridging course in financial accounting is a further recommended for students with qualifications from qualitative fields of study in order to provide a basis in quantitative studies. Accordingly, focus of previous education also proved to have predictive value in terms of MBA success. Students with previous education in numerically-based fields of study had a better success rate than students from other fields of study. Firstly, the prerequisite of a Bachelor's degree in most MBA programmes is therefore supported. It may also be refined to be a Bachelor's degree

with some minimal quantitative component (Statistics, for example), which could improve throughput and MBA academic success. It was further determined that the numerically-based modules had the largest failure rate of which Financial accounting posed to be the biggest obstacle.

The findings of this study once again highlight the importance of language of delivery in education. It is recommended that the intellectualisation of the African languages is pursued further, as proposed by Finlayson and Madiba (2002), to ensure education in the mother tongue also becomes a reality at the MBA level. Simultaneous translation services in African languages can be proposed with the delivery of the programme, although some subject terminology could pose a problem (see Finlayson and Madiba 2002).

The potential practical implications of the above recommendations for business schools are; the implementation of an adapted curriculum and phasing out of current curricula. The implementation of adapted selection criteria, providing bridging courses in financial accounting, a focus on the intellectualisation of African languages, or alternatively providing more widely translation services for non-English speaking students.

LIMITATIONS OF THE STUDY

The study population of this study was limited to one business school in South Africa. Therefore, results may not be generalised to all business schools at all times. However, the business school under investigation is internationally accredited and in line with international curriculums, standards and trends. Our findings are therefore meaningful for selection processes at many business schools.

One limitation also concerns our classification of previous education as numerical vs. non-numerical. Firstly, we did not have this information for all participants in the sample, and the results are therefore based on a subset of the current sample. Furthermore, our classification is based on our best judgement, and not some objective classification.

REFERENCES

Adendorff, S. and C. North. 2004. Towards an MBA selection model: A South African case study. *Management Today* 20(8): 40–41.

Ahmadi, M., F. Raiszadeh and M. Helms. 1997. An examination of the admission criteria for the MBA programs: A case study. *Education 00131172*, 117(4).

Alias, M. and A. F. D. Zain. 2006 Relationship between entry qualifications and performance in graduate education. *International Education Journal* 7(3): 371–378. Shannon Research Press.

Bennet, R. 2003. Determinants of undergraduate student dropout rate in University Business Studies Department. *Journal of Further and Higher Education* 27(2): 124–141.

Bennis, W. and J. O'Toole. 2005. How business schools lost their way. *Harvard Business Review*, May 2005, (83), 5: 96 – 104.

Berman, R. and L. Cheng. 2001. "English academic language skills: Perceived difficulties by undergraduate and graduate students, and their academic achievement". *Canadian Journal of Applied Linguistics* 4(1–2): 25–40.

Bisschoff, C. A. 2005. A preliminary model to identify low-risk MBA applicants. *SA Journal of Economic and Management Sciences* 8(3): 300–310.

Braunstein, A. W. 2006. MBA academic performance and type of undergraduate degree possessed. *College Student Journal* 40(3): 685–586.

Butler, D., L. Johnson and B. Forbes. 2008. An examination of a skills-based leadership coaching course in an MBA program. *Journal of Education for Business March/April:* 227–232.

Census, 2011. http://www.statssa.gov.za/ (Accessed 14 August 2017).

Chemers, M. M., L. Hu and B. F. Garcia. 2001. Academic self-efficacy and first year college performance and adjustment. *Journal of Educational Psychology* 93(1): 55–64.

Christensen, D.G. and W.R Nance. 2012. Academic Performance in MBA Programs: Do Prerequisites Really Matter? *Journal of Education for Business* (87): 42–47.

Clayton, G. E. and T. Cate. 2004. Predicting MBA no-shows and graduation success with discriminate analysis. *International Advances in Economic Research* 10: 235–243.

DeSchields Jr. O. W., A.Kara and E. Kaynak. 2005. Determinants of business student satisfaction and retention in higher education: Applying Herzberg's two-factor theory. *International Journal of Educational Management* 19(2): 128–139.

Dooey, P. and R. Oliver. 2002. An investigation into the predictive validity of the IELTS test. *Prospect* 17: 36–54.

Dobson, P., P. Krapljan-Barr and C. Vielba. 1999. An evaluation of the validity and fairness of the Graduate Management Admission Test (GMAT) used for MBA selection in a UK business school. *International Journal of Selection and Assessment* 7(3): 196–202.

Dreher, G. F. and C. Ryan. 2000. Prior work experience and academic achievement among first-year MBA students. *Research in Higher Education* 41(4): 505–525.

Dreher, G. F. and C. Ryan. 2002. Evaluating MBA program admission criteria: The relationship between pre-work MBA work experience and post-MBA outcomes. *Research in Higher Education* 43(6): 727–744.

Dreher, G. F. and C. Ryan. 2004. A suspect MBA selection model: The case against the standard work experience requirement. *Academy of Management Learning & Education* 3(1): 87–91.

Ekpenyong, D.B. 2000. Empirical analysis of the relationship between students' attributes and performance: case study. *Journal of Financial Management & Analysis* 13(2): 54-63.

Finlayson, R. and M. Madiba. 2002. The intellectualisation of the indigenous languages of South Africa:

Challenges and prospects, current issues in language planning 3(1): 40–61. DOI: 10.1080/14664200208668036

Furnham, A., T. Chamorro-Premuzic and F. McDougall. 2003. Personality, cognitive ability, and beliefs about intelligence as predictors of academic performance. *Learning and Individual Differences* 14: 49–66.

Graduate Management Admission Council (GMAC). (2012). Guide to the use of GMAT.

Hancock, T. 1999. The gender difference: Validity of standardized admission tests in predicting MBA performance. *Journal of Education for Business* 75(2): 91–93.

Hill, K. L., G. E. Hynes, M. P. Joyce and J. S. Green. 2011. GMAT AWA score as a predictor of success in managerial communication course. *Business Communications Quarterly* 74: 103–118.

Harvard Business School. 2017. Admissions: Application process. http://www.hbs.edu/mba/admissions/application-process/Pages/default.aspx (Accessed 18 August 2017).

Hoefer, P. and J. Gould. 2000. Assessment of admission criteria for predicting students' academic performance in graduate business programs. *Journal of Education for Business March/April*: 225–229.

Kotze, M. and L. Griesel. 2008. Predicting the academic performance of MBA students by means of specific aptitudes and competencies. *Journal for New Generation Sciences* 6(2): 60–79.

McKenzie, K. Schweitzer, R.D. 2001. Who succeeds at university? Factors predicting academic performance in first year Australian university students. *Journal for Higher Education Research & Development* 20(1): 21–23.

Mihail, D. M. and K. A. Elefterie. 2006. Perceived effects of an MBA degree on employability and career advancement: The case of Greece. *Career Development International* 11(4): 352–361

Ministry of Education. 2001. Draft National Plan for Higher Education in South Africa. (February). Pretoria: Government Printer.

Ministry of Higher Education and Training. 2012. Annual Report, 1 April 2012 to 31 March 2013. Pretoria: Government Printer.

Navarro, P. 2008. The MBA core curricula of top-ranked US business schools: A study in failure? *Academy of Management Learning & Education* 7(1): 108–123.

Nelson Mandela Metropolitan University Business School. 2017. MBA psychometric testing and interviews. http://mba.nmmu.ac.za/content/mba-psychometric-testing-interviews (Accessed 18 August 2017).

NMMU *see* Nelson Mandela Metropolitan University Business School.

North-West University School of Business and Governance. 2017. Selection tests. http://commerce.nwu.ac.za/business-and-governance/useful-information (Accessed 18 August 2017).

NWU see North-West University School of Business and Governance.

Peiperl, M.A. and R. Trevelyan, R. 1997. Predictors of performance at business school and beyond: Demographic factors and the contrast between individual and group outcomes. *Journal of Management Development* 16(5): 354–367.

Poyrazli, S., C. Arbona, R. Bullington and S. Pisecco. 2001. Adjustment issues of Turkish college students studying in the United States. *College Student Journal* 35(1): 52–62.

Schwartz, L., K. Strowe, and P. Sendall. 2008. Understanding the factors that contribute to graduate student success: A study of Wingate University's MBA program. Conference proceedings *Academy of Business Education*: 1–11.

SHL. 2009. Objective assessment in MBA selection. South Africa Research Series. SHL Group Limited

Srikant M., D. A. Datar, P. Garvin and G. Cullen. 2011. Rethinking the MBA: Business education at a

crossroads. *Journal of Management Development* 30(5): 451–462.

SPSS Inc. (2017). IBM SPSS Statistics Version 25, Release 23.0.0,Copyright© IBM Corporation and its licensors. http://www-01.ibm.com/software/analytics/spss/

Sulaiman, A. and S. Mohezar. 2006. Student success factors: Identifying key predictors. *Journal of Education for Business* 81(6): 328–333. DOI: 10.3200/JOEB.81.6.328-333.

Stanford Graduate School of Business. 2017. Admission process. https://www.gsb.stanford.edu /programs/mba/financial-aid/international-students/stanford-africa-mba-fellowship/application (Accessed 18 August 2017).

Truitt, T. C. 2002. *Validity of selection criteria in predicting MBA success.* CBFA Conference 2002.

Terry, N., J. K. Owens and J. W. Cooley. 2009. The impact of instruction mode on student performance in graduate financial management. *The Journal of Human Resource and Adult Learning* 5(1): 148–154.

University of Stellenbosch Business School. 2017. Selection tests. http://www.usb.ac.za/ MBA/Pages/SHL-or-GMAT.aspx (Accessed 18 August 2017).

USB *see* University of Stellenbosch Business School.

Van der Merwe, D. and M. De Beer. (2006). Challenges of student selection: Predicting academic performance, *South African Journal of Higher Education, 20*(4), 547–562.

Whittingham, K. L. 2006. Impact of personality on academic performance of MBA students: Qualitative versus quantitative courses. *Decision Sciences Journal of Innovative Education* 4(2): 175–190.

Woodrow, L. 2002. Academic success of international postgraduate education students and the role of English proficiency. *University of Sydney Papers in TESOL* (1): 51–70.

Van Bragt, A. C, W. E. A. Bakx, C. M. Bergen and M. A. Croon. 2011. *Higher Education* 61: 59–75. DOI 10.1007/s10734-010-9325-7.

Yang, B. and D. R. Lu. 2001 Predicting academic performance in management education: An empirical investigation of MBA success. *Journal of Education for Business* 77: 15–20.

York, T. T., C. Gibson and S. Rankin. 2015. Defining and measuring academic success. *Practical Assessment, Research & Evaluation* 20(5) March 2015 (e-journal).

CHAPTER 3 – ARTICLE 2

This manuscript has been submitted and is under review at the *Africa Education Review*

Scholtz, E.M., & Pienaar, J. (2019). The challenge of the business school: Towards enhanced MBA completion and throughput rate.

Link to the journal:

https://www.tandfonline.com/action/showAxaArticles?journalCode=raer20&

CHAPTER 3 – ARTICLE 2:
THE CHALLENGE OF THE BUSINESS SCHOOL: TOWARDS ENHANCED MBA COMPLETION AND THROUGHPUT RATE

Abstract

The focus of this study was to determine the factors contributing to the completion and throughput rates of an MBA programme. For this purpose, throughput was defined as the completion of the MBA degree within the minimum 3, to allowed 4 years. A longitudinal quantitative research design was followed and made use of a data bank of students who completed the MBA degree between 2006 and 2013 at a particular South African business school. A total of *N*=472 students represent the research population. Cognitive ability assessment gathered within the selection process was used and compared to timeous MBA completion. Logistic regression analysis was applied to determine the relation of the cognitive and verbal ability measures, former education, gender, age and language, to the successful completion of the MBA degree of students enrolled for the above-mentioned period. Results indicated that cognitive ability is related to completion of the MBA degree. English language proficiency proved to have an influence on MBA completion. Younger students performed better, compared to older students, indicating that age is related to MBA completion. Former education proved to have no relation to MBA completion. Determining factors related to MBA completion have practical implications on selection processes, student management and throughput.

Keywords: throughput, academic success, pass rate, cognitive ability, assessment, numerical ability, verbal ability, drop out, selection practices

Introduction

In the early 21st century, at a time when the international economy was at a particular low, Connoly (2003) contemplated whether this might be "the end of MBA as we know it". A decade later, Varela et al., (2013:436) concluded that the MBA is still the most popular vehicle for the empowerment of managers with skills and knowledge, since the early 20th century. As a result, the popularity of the MBA cannot be denied. Although business schools master sufficient numbers of students for enrolment annually, business schools in general are still under pressure to be a viable economical investment (Carmichael and Sutherland, 2005).

Van den Berg and Hofman (2005) report that the average time to complete a qualification has been of contention and debated in European education policy. Although European countries experience the challenge of completion and throughput, it varies greatly between countries. The United Kingdom reports 80% success, while Austria, France, Portugal and Turkey report 55% or less, and Italy reports only 35% success (Van den Berg and Hofman, 2005). Within the South African context, Scholtz and Pienaar (2018) illuminated this issue when they found that 37% of students dropped out in the first year of MBA study at a particular business school, while 63% completed the first year of MBA successfully – where they defined 'successfully' as all first-year subjects of the MBA completed in the first year.

Throughput rate and delivery of sufficient master's and doctoral degrees to fulfil educational and economic needs are one of the most critical concerns in the South African educational environment (Ministry of Higher Education and Training, 2012). The timeous completion of the MBA has an influence on all stakeholders; the student, organisations and the business school (Baruch and Leeming, 2001). Students suffer financial costs as well as psychological burdens such as low self-efficacy, stress, quality of life, and pressure on work- and family life (Dobrow and Higgens, 2005). Organisations that subsidise managers to qualify themselves with an MBA to fulfil the need for competent and skilled managers and leaders suffer losses when expectations are not met (Baruch, 2009). With more business schools entering the market annually, the

competition and delivery of effective, skilled managers within the allotted time are also crucial (Baruch and Leeming, 2001), and it also influences the credibility and status of business schools (Carmichael and Sutherland, 2005).

Based on the introduction above, the focus of the investigation this paper reports on was to gain a deeper understanding of factors that contribute to the completion and throughput rates of a particular MBA programme at a selected business school in South Africa. For this purpose, throughput is defined as the completion of the MBA degree within the allowed three to four years. Four years is the maximum period allowed by the business school of study for completion of the MBA degree, as stipulated by the academic rules of the university (NWU, 2017).

Predictors of completion and throughput rate

Former studies have found that the field of *undergraduate qualification* had an influence on the academic performance of MBA students. Sulaiman and Mohezar (2006) as well as Alias and Zain (2006) reported that students with a background in business and management studies had a better pass rate than students from different disciplines. Scholtz and Pienaar (2018) similarly found that first-year MBA students with numerical-based qualifications, such as the commercial B degree (BCom), were more successful in the completion of the first year of the MBA.

Language of tutoring at most universities internationally is English (Cheng et al., 2004). In the quest to find reasons for extended studies and drop-out, researchers have identified *language* as a hurdle to non-English speaking students (Andrade, 2006; Berman and Cheng, 2001; Cheng et al., 2004). The issue of language of tutoring has specific relevance in South Africa, where the language of instruction in higher education is either English, or in a few cases Afrikaans, although less than 10% of the population has English as their first, and only 13.5% Afrikaans, as their first language (Census 2011). The constitution of 1994 officially declared South Africa as a country of multilingualism, giving recognition to nine major African languages (isiNdebele, Sesotho sa Leboa, Sesotho, SiSwati, Xitsonga, Setswana, Tshivenda, isiXhosa and isiZulu) together with English and Afrikaans (Finlayson and Madiba, 2002). After the publishing of the Ministry of

Education's language policy in 2002 (Ministry of Education, 2002), many studies were conducted concerning the move from monolingual to bilingual tutoring in higher education (Du Plessis, 2006; Finlayson and Madiba, 2002; Foley, 2004; Van der Walt, 2004). Scholtz and Pienaar (2018) found that *language* had an influence on the academic performance of first-year MBA students, which influences throughput. The study showed that Afrikaans and English students had a better MBA first-year pass rate than students with African languages as home language.

The quality of business schools is linked to delivering skilled managers and leaders as a return on investment to the economy (Carmichael and Sutherland 2005). Cai (2013) debates that universities should consult employers when developing the content of curriculums in order to provide the labour market with employable, skilled workers with high quality qualifications. Boyatzis et al., (2002) found that MBA graduates improved their managerial skills, particularly that of emotional intelligence and cognitive ability. Camuffo and Gerli (2004) similarly found that organisational expectancies were met regarding the managerial skills of the MBA graduates that they employed. Richards-Wilson and Galloway (2006) found that graduates found more intrinsic benefits (e.g. self-confidence and developed personality), than extrinsic benefits (e.g. career progression, increased job responsibility and increased compensation), while Slater and Dixon-Fowler (2010) do report positive results on the skills development of MBA graduates regarding performance within the corporate context.

Business schools are evaluated on the return of investment of the MBA programme, which includes the employability of their graduates (Carmichael and Sutherland, 2005). Yorke (2004) explains that the potential and employability of a student are demonstrated by a set of achievements and attributes relevant to a specific job. Heckman and Kautz (2012) identified which skills the labour market values most, and conclude that 'soft skills' matter most to achieve success in life. Heckman and Kautz (2012) describe these 'soft skills' as personality traits, goals, motivations, and preferences, while Chhinzer and Russo (2018) note interpersonal skills, written communication skills and verbal communication skills. Finch et al. (2013) echo the finding that employers rate soft skills as being of highest importance, while rating academic reputation as of

the lowest importance. Finch et al. (2013) further suggest that graduate employability would be increased if curriculums and learning outcomes are developed with a focus on the development of these soft skills.

The focus of the current study will be on improving MBA completion and throughput rate. As noted, the benefits hereof have an influence on the student personally, the students' employing organisation and the business school (Baruch and Leeming, 2001), and therefore present a worthy goal. Firstly, students gain intrinsically from personal growth and enhanced self-confidence (Richards-Wilson and Galloway, 2006). Secondly, there is an ever increasing quest for skilled managers and leaders in the economic market, which places a demand on the timely completion of the MBA, which remains the most popular vehicle to obtaining these skills (Baruch, 2009). A further implication of timely completion of the MBA is the image, status and quality of business schools (Carmichael and Sutherland, 2005).

The factors identified by this study to predict the completion and throughput rate of the MBA degree are *cognitive ability, age, home language* and *former education.*

Cognitive ability is widely used by business schools in selection processes in the quest to predict MBA academic performance (Adendorf and North, 2004; Dreher and Ryan, 2004). As a consequence, the accuracy of cognitive ability as predictor has been questioned and researched. The graduate management admissions tests' (GMAT) cognitive ability assessment was found to be a reliable predictor of academic performance (Hill et al., 2011; Hoefer and Gould, 2000; Terry et al., 2009). Schwartz et al., (2006) similarly found a significant positive correlation between academic performance and the GMAT dimension that measures the ability to analyse data and draw conclusions using reasoning skills (GMAT-*Quantitative*). Conversely, Dobson et al. (1999) found that the dimension of GMAT that measures ability with reading and comprehension of written material and arguments (GMAT-*Verbal*) is a good predictor of MBA examination performance, but that the GMAT-*Quantitative* is not. Within the South African context, Kotze and Griesel (2008) found that verbal and numerical aptitude has a significant correlation with

academic performance, of which numerical aptitude had higher significance. Adendorff and North (2004) found that both numerical and verbal skills were accurate predictors of MBA academic performance. The study by Scholtz and Pienaar (2018) support the notion that cognitive ability correlates positively to academic performance and that the numerical cognitive assessment was the best predictor of MBA first-year success. The authors therefore decided to include *cognitive ability* as a factor to predict the completion and throughput rate of the MBA degree.

Contrary to the belief that older MBA students with more work experience fared better academically, studies have found that *age* had a reverse influence on academic success (Ahmadi et al., 1997; Ekpenyong, 2000; Peiperl and Trevelyan, 1997; Scholtz & Pienaar, 2018). The mentioned studies all found that younger students consistently fared better than older students did. This may be because younger students had more recent experience in the academic environment (Peiperl and Trevelyan, 1997). With the above literature as background, it was decided to include *age* as independent variable in the current study.

English language proficiency has been linked to academic performance at English-speaking universities by a number of studies (Berman and Cheng, 2001; Dooey and Oliver, 2002; Poyrazli et al., 2001; Woodrow, 2002). Within the South African context, students with English or Afrikaans as home language performed better academically than students with other African languages as mother tongue did (Scholtz and Pienaar, 2018). With this background of literature internationally and within the South African context, the authors opted to include *home language* as a predictor of the timely completion and throughput of the MBA qualification.

The selection criteria of most business schools firstly require an undergraduate (Bachelor's) degree of at least three years in order to qualify for enrolment in the MBA programme (Dreher and Ryan, 2004). It has been shown that the type of undergraduate study had an influence on MBA academic performance. Students with qualifications in business management achieve better academic results on the MBA programme than students from other fields of study (Sulaiman and Mohezar, 2006). Scholtz and Pienaar (2018) found that students with Bachelor's qualifications,

which have a broad base of numerically-based knowledge, had the best chance for first-year success, defined as successful completion of MBAI. The authors therefore decided to include *former education* to predict timeous completion of the MBA degree.

RESEARCH METHOD

Research design

A quantitative research design was applied by making use of a comprehensible data bank consisting of an analysis of data from MBA students enrolled at a specific business school between 2006 and 2013. The data will be quantified and summarised, after which relationships between variables of interest will be expressed statistically.

The business school makes use of cognitive assessments as part of their selection process and these assessment results will be compared to successful MBA completion and correlated to various biographical indicators as variables to successful completion.

Measuring instruments and data handling

The cognitive ability measuring instrument applied was developed in 1984, and is widely used as a selection instrument in tertiary education (SHL 2009). The selection battery measures two cognitive facets, namely *numerical reasoning* and *verbal reasoning ability*.

The section measuring *numerical reasoning* is compiled to measure the ability to make the correct decisions or inferences from numerical data portrayed in tables and graphs. The content of questionnaire and related data is based on the business environment. The tasks requested address the ability to interpret, understand and evaluate numerical data presented rather than mathematical computation. The content of the assessment consists of 35 questions with a time limit of 35 minutes (SHL, 2009).

The section measuring *verbal reasoning* is concerned with assessing verbal understanding and the insight and ability to logical reasoning and the evaluation of arguments presented within the context of the business environment. It is not the aim of the assessment to evaluate grammar or

spelling, but rather insight and understanding of language within the context of the business environment. The questionnaire has a time restriction and consists of 48 questions with a time limit of 25 minutes (SHL, 2009). To ensure validity, reliability and un-biasedness, the developer of the assessment conducted several studies (SHL, 2009) to prove compliance with South African legislation.

Biographical data, including gender, home language, age, and educational qualification, are also collected. Concerning previous education, it was decided to categorise these qualifications into four (4) fields; BCom qualifications (category 1), numerically-based qualifications (category 2), non-numerically-based qualifications (category 3), and students categorised as 'B-status' (category 4). The *B-status* category represents the allowed 10% recognition of prior learning (RPL) of students, who do not have a formal three- or four-year degree, but qualify on alternative three-year tertiary qualifications obtained and related working experience. The category of *numerically-based qualifications* is students with BSc, BPharm, BSta, BTech, and LLB qualifications, or a post-graduate level of qualification. *Non-numerically-based qualifications* are students with a BA in languages, communication, theology, philosophy, agriculture and education, which are not overwhelmingly based on numerical knowledge.

Participants

The population of the study consists of the number of students who completed the MBA degree between 2006 and 2013 at a South African business school. A total of *N*=472 students represent the research population.

The home languages represented in the population include English (*n*=82), Afrikaans (*n*=261) and various African languages of which Sesotho (*n*=43) and Setswana (*n*=24) had the largest representation. Following that, isiXhosa (*n*=16) and isiZulu (*n*=15) had large representation. For these and historical reasons, it was decided to categorise language as English and Afrikaans (category 1), and other African languages (category 2). Category 1 (English and Afrikaans) totals 343 (72.7%) and category 2 (other African languages) totals 129 (27.3%)

Of the 472 participants, 140 (30%) were female and 332 (70%) male. Of the 472 participants, 107 (22.7%) had a BCom qualification, 229 (48.5%) had a numerically-based qualification (BSc, BPharm, BSta, BTech, and LLB qualification, or a post-graduate level of qualification), 74 (15.7%) had a non-numerically-based qualification (BA in languages, communication, theology, philosophy, agriculture and education). Forty-four (*n*=44; 9.3%) students were classified as 'B-status', meaning they had at least three years tertiary education, but not a Bachelors' degree. Eighteen records (3.8%) are reported as missing.

Five (5) full MBA cycles of MBA phase III had been completed in the time frame from June 2006 to November 2013. The five full MBA cycles and throughput rate of the population are portrayed in Table 1 below. Here, *throughput* was calculated as completion of the MBA degree within three or four years. Four years is the maximum period allowed by the business school of study to complete the MBA, as stipulated by the academic rules of the university.

Table 1

Throughput rate of five MBA full cycles from 2006-2013 (N=472)

Cycles	2006	2007	2008	2009	2010	2011	2012	2013
1	MBA I *n* = 80	MBA II *n* = 69	MBA III *n* = 44	MBA IV *n* = 20				
2		MBA I *n* = 91	MBA II *n* = 77	MBA III *n* = 51	MBA IV *n* = 14			
3			MBA I *n* = 90	MBA II *n* = 80	MBA III *n* = 55	MBA IV *n* = 20		
4				MBA I *n* = 112	MBA II *n* = 88	MBA III *n* = 68	MBA IV *n* = 12	
5					MBA I *n* = 99	MBA II *n* = 77	MBA III *n* = 57	MBA IV *n* = 12

Throughput cycle 1 = 80.0%
Throughput cycle 2 = 71.4%
Throughput cycle 3 = 83.3%
Throughput cycle 4 = 71.4%
Throughput cycle 5 = 69.7%

The lowest throughput rate was 69.7% during the fifth cycle from 2010 to 2013, as indicated in Table 1. During this cycle, 99 students enrolled for MBAI and 69 students completed the degree within the maximum allowed period of four years. The average drop-out rate in the full cycle (students who did not complete the degree) was 25.2%.

STATISTICAL ANALYSIS

Statistical analysis was done with the aid of the SPSS program, version 24 (SPSS, 2014). Cross-tabulations were used to determine the association of biographical variables with *successful completion* of the of the MBA degree within the allotted time (maximum of 4 years). *Successful completion,* as described in the previous sentence, will further be referred to as *MBA completion.* The correlation between the results of cognitive ability and MBA completion was investigated using Pearson's rank order correlation coefficient. The analysis will focus on the relation of the cognitive and verbal ability measures, former education, gender, age and language, to academic performance of students enrolled for the period 2006 to 2013 to determine which variables are related to the successful completion of the MBA degree.

Logistic regression analysis was applied to determine the significance and the unique contributions of variables identified above as predictors of MBA completion. Logistic regression is particularly suited to cases where the outcome variable is on two levels – in this case, completing the MBA programme within three or four years, or failing to do so (i.e. dropping out of the programme). Thereafter, stepwise logistic regression was performed to determine the order of importance of these variables as predictors of MBA completion. The manual of effect size indices (Steyn, 2002) was followed to interpret that R^2 = 0.01 is of small effect; R^2 = 0.10 is of medium effect; and R^2 = 0.25 is large effect. To interpret the importance of the odds radio in practice, the following guidelines were used: 1.5 = a small effect; 2.5 = a medium effect; and 4.25 = a large effect (Steyn, 2002).

RESULTS

MBA throughput over academic years 2006-2013

Cross-tabulation indicated that 75% of the population needed a fourth year to complete the MBA successfully, with only 25% of students completing the MBA within the allotted time of three years.

Analysing for specifically which module students needed a fourth year, it was found that 88% of students were registered for the *dissertation* in the fourth year of enrolment.

Association of predictor variables and MBA throughput

A **chi**-square test for independence indicated no significant association (p=0.470) between gender and MBA completion. Therefore, gender was not further considered as a predictor. A chi-square test for independence (p=0.00) and Cramer's V at 0.27 indicated an association with medium effect between language and MBA completion, so that Afrikaans and English students had a significantly lower representation in the failure category. A chi-square test for independence (p=0.007) and Cramer's V value of 0.17 for former education indicated a significant association of medium effect between former education and MBA completion, so that students with a BCom qualification had a significantly higher representation in die MBA completion category.

Logistic regression analysis to predict MBA completion

As the correlation between the *numerical- and verbal cognitive assessment* was deemed too high (0.49) (Steyn, 2002) to perform logistic regression with both these variables included simultaneously, it was decided to perform separate logistic regression analyses for these two variables of cognitive assessment. As noted, gender was excluded from analyses as it had no significant association with MBA completion. *Age* indicated a significant correlation with MBA completion and was included as predictor variable. In the logistical regression below, former education categories were compared with the BCom qualification category and language with the Afrikaans or English category. This was decided because a BCom qualification is the closest related to the MBA qualification and the language of instruction and study material is Afrikaans or English. In Table 2 below, the odds ratio is an indication of the unique predictive value of age, language, former education, and *numerical cognitive assessments* towards MBA completion.

Table 2

Logistic regression predicting likelihood of MBA completion with numerical cognitive assessment as predictor of MBA completion

Variables in the equation	B	S.E.	Wald	df	Sig.	Odds ratio	95.0% C.I. for odds ratio	
							Lower	Upper
Age	-0.05	0.02	5.42	1	0.02**	1.05	0.92	0.99
Language	-0.29	0.15	3.63	1	0.06*	1.33	0.56	1.01
Former education			2.71	3	0.44			
Numerical qualification	0.48	0.35	1.93	1	0.17	1.62	0.82	3.12
Non-numerical qualification	0.03	0.42	0.00	1	0.95	1.03	0.45	2.33
B-Status	0.29	0.49	0.34	1	0.56	1.34	0.51	3.51
Numerical cognitive assessment	0.04	0.01	21.3	1	0.00**	1.05	1.03	1.07
Constant	1.80	0.99	3.80	1	0.05	6.02		

** Significant at the $p \leq 0.05$ level

* Significant at the 0.10 level

Standard logistic regression was performed to assess the predictive value of four independent variables (age, language, former education and numerical cognitive assessment) as predictor of completion of the MBA degree within the allowed time. Nagelkerke R^2 was 0.23 and Cox and Snell R^2 = 0.15, so that the exact R^2 was 0.19, which proved to be a practically important prediction. The results in Table 3 regarding *age* indicate that the chances of a student to complete the MBA with success were 1.05 greater for each year that a student is younger, and statistically significant (p=0.057), although the odds ratio for an increase in one year is not practically important. Results indicated that *language* was a statistically significant predictor at the 0.10 level (p=0.057) of MBA completion, with an odds ratio of 1.33. Students with Afrikaans or English as home language therefore had a 1.33 better chance to complete the MBA successfully. The odds ratio was only of small practical importance in this case. *Former education* was found not to be statistically significant as an additional variable (p=0.439). The *numerical cognitive assessment* indicated that with every one mark scored higher in the assessment, students had a 1.05 higher chance for MBA completion, which is a statistically significant prediction at p=0.000 and would also result in an important effect in practice for a larger increase in marks.

In Table 3 below, the predictive value of age, language, former education, and verbal cognitive assessments towards MBA completion was examined.

Table 3

Logistic regression predicting likelihood of MBA completion with verbal cognitive assessment as predictor of MBA completion

Variables in the equation	**B**	**S.E.**	**Wald**	**df**	**Sig.**	**Odds ratio**	**95.0% C.I. for odds ratio**	
							Lower	**Upper**
Age	-0.06	0.02	7.01	1	0.01**	1.06	0.91	0.99
Language	-0.47	0.14	10.81	1	0.00**	1.59	0.48	0.83
Former education			5.64	3	0.13			
Numerical qualification	0.32	0.34	0.88	1	0.35	1.38	0.70	2.71
Non-numerical qualification	-0.48	0.41	1.36	1	0.24	0.62	0.28	1.38
B-Status	-0.30	0.48	0.39	1	0.53	0.74	0.29	1.89
Verbal cognitive assessment	0.05	0.01	15.41	1	0.00**	1.05	1.02	1.07
Constant	1.49	1.03	2.10	1	0.15	4.43		

**Significant at the 0.05 level

Standard logistic regression was performed to assess the predictive value of four independent variables (age, language, former education and verbal cognitive assessment) as predictor of MBA completion. Nagelkerke R^2= 0.20 and Cox and Snell R^2 = 0.13 so that the exact R^2=0.17, which proved to be a prediction of medium importance. The results in Table 4 regarding *age* indicate that the chances of a student reaching MBA completion were 1.06 more for each year that a student is younger, which is statistically significant at the 5% level (p=0.008), although the odds ratio for an increase in one year is not practically important. Regarding *language,* results indicated that home language was a statistically significant predictor at the 5% level (p=0.001), with an odds ratio of 1.59. This indicates that students with Afrikaans or English as home language had a 1.59 better chance to complete the MBA degree within the allowed time. The odds ratio though was only of small practical importance. *Former education* made no statistically significant contribution towards the timeous completion of the MBA. The *verbal cognitive assessment* indicated that with every one mark scored higher in the assessment, students had a 1.024 higher chance to complete

the MBA degree, which is statistically significant at the 5% level (p=0.000) and would also result in an important effect in practice for a larger increase in marks.

Table 4 below presents the predictive value of age, language, former education, and the average of the numerical- and verbal cognitive assessments towards MBA completion.

Table 4

Logistic regression predicting likelihood of MBA completion with the average of numerical and verbal cognitive assessment as predictor of MBA completion

Variables in the equation	**B**	**S.E.**	**Wald**	**df**	**Sig.**	**Odds ratio**	**95.0% C.I. for odds ratio**	
							Lower	**Upper**
Age	-0.05	0.02	6.42	1	0.01**	1.05	0.91	0.99
Language	-0.31	0.15	4.49	1	0.03**	1.37	0.55	0.98
Former education			2.97	3	0.30			
Numerical qualification	0.45	0.35	1.68	1	0.20*	1.57	0.80	3.09
Non-numerical qualification	0.09	0.42	0.05	1	0.83	1.09	0.404	2.08
B-Status	0.16	0.49	0.10	1	0.75	1.17	0.45	3.02
Average of numerical and verbal cognitive assessment	0.06	0.01	23.52	1	0.00**	1.06	1.04	1.09
Constant	0.89	1.03	0.74	1	0.39	2.42		

**Significant at the 0.05 level

* Significant at the 0.10 level

Direct logistic regression was performed to assess the predictive value of four independent variables (age, language, former education and averaged cognitive assessment of numerical and verbal cognitive assessment) as predictor of MBA completion. Nagelkerke R^2= 0.24 and Cox and Snell R^2= 0.15 so that the exact R^2=0.20, which proved to be an important prediction in practice. The results in Table 4 regarding *age* indicate that the chances of a student to complete the MBA were 1.05 more for each year that a student is younger, and is statistically significant at the 5% (p=0.01) level, although the odds ratio for an increase in one year is not practically important.

Regarding *language,* results indicated that students with Afrikaans or English as home language were a statistically significant predictor at the 5% level (p=0.034), with an odds ratio of 1.37, indicating that students with Afrikaans or English as home language had a 1.37 better chance of MBA completion. This indicates that *language* is a statistically significant predictor of successful completion of the MBA, but only of small practical importance. *Former education* was not statistically significant as an additional variable. The *average of numerical and verbal cognitive assessment* indicated that with every one mark scored higher in the assessment, students had a 1.06 higher chance to complete the MBA degree within the allowed time, and is statistically significant at the 5% level (*p*=0.00) and would also result in an important effect in practice for a larger increase in marks.

Discussion

The study aimed to explore the challenge that business schools face regarding the timeous completion of and throughput in the MBA degree. In order to identify the variables associated with MBA completion, logistic regression was applied, including three biographical variables and cognitive ability, related to the timeous completion of the MBA degree. The biological variables included in the analyses were age, language and former education, and these are discussed below.

Age was proven to be a reliable predictor of MBA completion in all analyses. It was found that younger students were more likely to complete the MBA degree than their older fellow students. Scholtz and Pienaar (2018) similarly found that younger age was advantageous to academic performance in the first year of MBA studies. Van den Berg and Hofman (2005) also found that older students achieved less academic success when compared to younger students.

First language proved to have an influence on the timeous completion and throughput of the MBA degree. All analyses showed that English- and Afrikaans-speaking students had better odds of completing of the MBA degree than students who indicated other languages as first language.

This is of importance to South African business schools and educational institutions in general, although the challenge of English language proficiency is not unique to South Africa. Studies on international students and the challenge of English language proficiency are ample (Benzie, 2010; Berman and Cheng, 2001; Dooey and Oliver, 2002; Woodrow, 2002). In this regard, Woodrow (2002) concludes that the academic performance of international students is partly related to language proficiency and partly related to the pedagogic choices made by lecturers. It should be noted that in the South African case it is not the English proficiency of *international* students that comes into play, but rather the English proficiency of students who are confronted with obtaining a degree in a second or third language in their home country.

Within the South African context, English is the language of tuition at most universities, although it is a multilingual country (Finlayson and Madiba, 2002). The drive to intellectualise African languages in South Africa has been positively accepted by all stakeholders. The University of Durban Westville has initiated a project to use African languages as language of tuition, while the North-West University launched a project to introduce Sesotho sa Leboa into science and technology disciplines. (Finlayson and Madiba, 2002). Besides these efforts, a great deal of work still needs to be done.

In all the analyses, *former education* proved to have no statistically significant influence on the timeous completion of the MBA degree. Contrastingly though, Scholtz and Pienaar (2018) found that *former education did* have an influence on the successful completion of the *first* year of MBA. It could therefore be deduced that although *former education* plays a role in MBA *first year* academic performance, the effect thereof disappears over the length of the programme.

Cognitive ability has widely been used as predictor of academic performance by educational institutions. The current study, in support, found *cognitive ability* to be a reliable predictor for the completion of the MBA degree within the allotted time of three to four years. The role of *cognitive ability* as predictor of MBA completion was evaluated in three ways, namely *numerical cognitive ability, verbal cognitive ability,* and the *average between numerical and verbal cognitive ability,*

and proved to have a significant association with MBA completion. Furthermore, step-wise logistical regression was performed to identify the order of importance of these three variables of cognitive assessment. The *numerical cognitive assessment* and the *average between the numerical and verbal cognitive assessment* proved to be the best predictors, both with Nagelkerke R^2= 0.19 and Cox & Snell R^2= 0.12 so that the exact R^2=0.16, which proved to be an important prediction in practice for MBA completion and throughput.

MBA throughput was determined through cross-tabulation and showed that approximately 17% of those students who successfully completed the MBA needed a fourth year to do so. Only 61% of students were able to successfully complete the MBA within three years. It was further found that a quarter of students who enrolled for the MBA drop out of the programme. The minimum allotted time to complete the MBA programme at the business school investigated is three years. Analysing specifically which module students needed a fourth year to complete the MBA, it was found that 88% of students were registered for the *dissertation* in the fourth year of enrolment.

Recommendations

English language proficiency proved to have an influence on MBA throughput at the business school that formed the focus of this study. It is recommended that translation services of the main African languages of the population, namely Sesotho and Setswana, are considered in MBA contact sessions, thereby supporting the drive to intellectualise African languages.

A further recommendation pertains to entry requirements and selection criteria. The current study proved that younger students (with likely also less work experience) were more likely to complete the MBA degree in the allocated time, when compared to older students. At present, it is a prerequisite for students to have a university degree and at least three years of work experience in order to enter the MBA programme. This result might suggest that the period of required work experience could be shortened, although we did not evaluate length of work experience *per se*. It is recommended that cognitive ability should be retained as part of the selection process as it proved to be a reliable predictor of academic performance.

In order to improve throughput rate, it is recommended that the business school of study should revisit the work load in the third year of the MBA curriculum. Seventeen percent (17%) of students need a further year of study to complete the dissertation, which has a big influence on throughput rate. The module in research methodology and placement on the curriculum should be revisited in an effort to improve throughput rate. The content of the module in research methodology should be optimised to best prepare students for the dissertation. This could minimise the time study leaders need to spend in guiding students for the dissertation.

Limitations of the study

The study population of this study was limited to one business school in South Africa. Therefore, results may not be generalised to all business schools at all times. However, the business school under investigation is internationally accredited and in line with international curriculums, standards and trends. Our findings are therefore meaningful for selection processes at many business schools.

REFERENCES

Adendorff, S., and C. North. 2004. "Towards an MBA Selection Model: A South African Case Study." *Management Today* 20 (1): 40-41.

Ahmadi, M., F. Raiszadeh, and M. Helms. 1997. "An Examination of the Admission Criteria for the MBA Programs: A Case Study." *Education* 117 (4): 540 –546.

Alias, M., and A. F. D Zain. 2006. "Relationship Between Entry Qualifications and Performance in Graduate Education." *International Education Journal* 7 (3): 371-378.

Andrade, M. S. 2006. "International Students in English Universities: Adjustment Factors." *Journal of Research in International education* 5 (2): 131-154.

Baruch, Y. 2009. "To MBA or Not to MBA." *Career Development International* 14 (4): 388-406.

Baruch, Y., and A. Leeming. 2001. “The Added Value of MBA Studies – Graduates’ Perceptions.” *Personnel Review* 30 (5): 589-602.

Benzie, H. J. 2010. “Graduating as a ‘Native Speaker’: International Students and English Language Proficiency in Higher Education.” *Higher Education Research & Development* 29 (4): 447-459.

Berman, R., and L. Cheng. 2001. “English Academic Language Skills: Perceived Difficulties by Undergraduate and Graduate Students, and their Academic Achievement.” *Canadian Journal of Applied Linguistics* 4 (1-2): 25-40.

Boyatzis, R. E., E. C. Stubbs, and S. N. Taylor. 2002. “Learning Cognitive and Emotional Intelligence Competencies through Graduate Management Education.” *Academy of Management Learning & Education* 1 (2): 150-162.

Cai, Y. 2013. “Graduate Employability: A Conceptual Framework for Understanding Employers' Perceptions.” *Higher Education* 65 (4): 457-469.

Camuffo, A., and F. Gerli. 2004. “An Integrated Competency-Based Approach to Management Education: An Italian MBA Case Study.” *International Journal of Training and Development* 8 (4): 240-257.

Carmichael, T., and M. Sutherland. 2005. A Holistic Framework for the Perceived Return on Investment in an MBA.” *South African Journal of Business Management* 36 (2): 57-70.

Cheng l., J. Myles, and A. Curtis. 2004. “Targeting Language Support for Non-Native English-Speaking Graduate Students at a Canadian University.” *TESL Canada Journal* 21 (2): 50-71.

Chhinzer, N., and A. M. Russo. 2018. “An Exploration of Employer Perceptions of Graduate Student Employability.” *Education and Training,* 60 (1): 104-120.

Connoly, M. 2003. The End of the MBA as we know it.” *Academy of Management Learning and Education* 2 (4): 365–367.

Dobrow, S. R., and M. C. Higgins. 2005. “Developmental Networks and Professional Identity: A Longitudinal Study.” *Career Development International* 10 (6-7): 567-583.

Dobson, P., P. Krapljan-Barr, and C. Vielba. 1999. “An Evaluation of the Validity and Fairness of the Graduate Management Admissions Test (GMAT) used for MBA Selection in a UK Business School.” *International Journal of Selection and Assessment 7* (4): 196-202.

Dooey, P., and R. Oliver. 2002. “An Investigation into the Predictive Validity of the IELTS Test as an Indicator of Future Academic Success.” *Prospect* 17 (1): 36-54.

Dreher, G.F., and C. Ryan. 2004. “A Suspect MBA Selection Model: The Case against the Standard Work Experience Requirement.” *Academy of Management Learning & Education* 3 (1): 87-91.

Du Plessis, T. 2006. “From Monolingual to Bilingual Higher Education: The Repositioning of Historically Afrikaans-Medium Universities in South Africa.” *Language Policy* 5 (1): 87-113.

Ekpenyong, B. 2000. “Empirical Analysis of the Relationship between Students’ Attributes and Performance: A Case Study of the University of Ibadan (Nigeria) MBA Programme.” *Journal of Financial Management & Analysis* 13 (2): 54-63.

Finch, D. J., L. K. Hamilton, R. Baldwin, and M. Zehner. 2013. “An Exploratory Study of Factors Affecting Undergraduate Employability.” *Education and training* 55 (7): 681-704.

Finlayson, R., and M. Madiba. 2002. “The Intellectualisation of the Indigenous Languages of South Africa: Challenges and Prospects.” *Current Issues in Language Planning*, 3 (1): 40-61.

Foley, A. 2004. “Language Policy for Higher Education in South Africa: Implications and Complications.” *South African Journal of Higher Education* 18 (1): 57-71.

Heckman, J. J., and T. Kautz. 2012. “Hard Evidence on Soft Skills.” *Labour Economics* 19 (4): 451-464.

Hill, K. L., G. E. Hynes, M. P. Joyce, and J. S. Green. 2011. "GMAT AWA Score as a Predictor of Success in Managerial Communication Course." *Business Communications Quarterly* 74 (2): 103-118.

Hoefer, P., and J. Gould. 2000. "Assessment of Admission Criteria for Predicting Students' Academic Performance in Graduate Business Programs." *Journal of Education for Business* 75 (4): 225-229.

Kotze, M., and L. Griesel. 2008. "Predicting the Academic Performance of MBA Students by Means of Specific Aptitudes and Competencies." *Journal for New Generation Sciences* 6 (2): 60-79.

Ministry of Education. 2002. Language Policy for Higher Education. Accessed February 5, 2018. http://education.pwv.gov.za/content/documents/67.pdf.

Ministry of Higher Education and Training. 2012. Annual Report (1 April 2012 to 31 March 2013). Accessed March 25, 2018. http://www.dhet.gov.za/Commissions%20Reports/Annual%20Report%202012%20-%202013.pdf

NWU (North-West University). 2017. General academic rules. Accessed March 25, 2018. http://www.nwu.ac.za/sites/www.nwu.ac.za/files/files/i-governance-management/policy/7P-Arules2017_e1.pdf

Peiperl, M. A., and R. Trevelyan. 1997. "Predictors of Performance at Business School and Beyond: Demographic Factors and the Contrast Between Individual and Group Outcomes." *Journal of Management Development* 16 (5): 354-367.

Poyrazli, S., C. Arbona, R. Bullington, and S. Pisecco. 2001. "Adjustment Issues of Turkish College Students Studying in the United States." *College Student Journal* 35 (1): 52-62.

Richards-Wilson, S., and F. Galloway. 2006. "What Every Business School Needs to Know about its Master of Business Administration (MBA) Graduates." *Journal of Education for Business* 82 (2): 95-100.

Scholtz, E. M., and J. Pienaar. 2018. "The Prediction of the Success of First-Year MBA Candidates: One Business School as a Case Study." *South African Journal of Higher Education* 32 (5): 270-288.

Schwartz, L., K. Strowe, and P. Sendall. 2008. "Understanding the Factors that Contribute to Graduate Student Success: A Study of Wingate University's MBA Program." Conference Proceedings of the Academy of Business Education 9. Accessed March 25, 2018. https://scholarworks.merrimack.edu/mgt_facpub/32

SHL. 2009. Objective Assessment in MBA Selection: South Africa Research Series. SHL Group.

Slater, D. J., and H. R. Dixon-Fowler. 2010. "The Future of the Planet in the Hands of MBAs: An Examination of CEO MBA Education and Corporate Environmental Performance." *Sustainability in Management Education* 9 (3): 429-441.

SPSS Inc. 2017. IBM SPSS Statistics Version 25, Release 23.0.0,Copyright© IBM Corporation and its licensors. http://www-01.ibm.com/software/analytics/spss/

Statistics South Africa. 2011. Census 2011: Statistical Release (Revised) – P0301.4. Accessed March 25, 2018. https://www.statssa.gov.za/publications/P03014/P030142011.pdf

Steyn, H. S. (jr.). 2002. "Practically Significant Relationships Between Two Variables." *SA Journal of Industrial Psychology* 28 (3): 10-15.

Sulaiman, A., and S. Mohezar. 2006. "Student Success Factors: Identifying Key Predictors." *Journal of Education for Business* 81 (6): 328-333.

Terry, N., J. K. Owens, and J. W. Cooley. 2009. “The Impact of Instruction Mode on Student Performance in Graduate Financial Management.” *The Journal of Human Resource and Adult Learning* 5 (1): 148-154.

Van den Berg, M. N., and W. H. A. Hofman. 2005. Student Success in University Education: A Multi-Measurement Study of the Impact of Student and Faculty Factors on Study Progress.” *Higher Education* 50 (3): 413–446.

Van der Walt, C. 2004. “The Challenge of Multilingualism: In Response to the Language Policy for Higher Education.” *South African Journal of Higher Education* 18 (1): 140-152.

Varela, O., M. Burke, and N. Michel. 2013. “The Development of Managerial Skills in MBA Programs: A Reconsideration of Learning Goals and Assessment Procedures.” *Journal of Management Development* 32 (4): 435-452.

Woodrow, L. 2002. “Academic Success of International Postgraduate Education Students and the Role of English Proficiency.” *University of Sydney, Papers in TESOL* 1: 51-70.

Yorke, M. 2004. Employability in higher education: what it is, what it is not. York: Higher Education Academy.

CHAPTER 4 – ARTICLE 3

This manuscript has been submitted and is under review at the *South African Journal of Human Resource Management*

Scholtz, E.M., & Pienaar, J. (2019). Linking management education to management competencies: The relationship of managerial competencies at entry to subsequent success in a management education programme.

Link to the journal:

https://sajhrm.co.za/index.php/sajhrm

CHAPTER 4 – ARTICLE 3
LINKING MANAGEMENT EDUCATION TO MANAGEMENT COMPETENCIES: THE RELATIONSHIP OF MANAGERIAL COMPETENCIES AT ENTRY TO SUBSEQUENT SUCCESS IN A MANAGEMENT EDUCATION PROGRAMME

Abstract

Determining the best predictors and managerial competencies related to subsequent academic performance is of practical importance to selection processes and content of Master of Business Administration (MBA) curricula. The aim of this study was to determine the role that managerial competencies and biographical variables (age, gender, previous education, and language), play in the prediction of subsequent academic performance. Managerial competencies were assessed as part of the selection process of potential candidates. A quantitative research design was followed using data from a South African business school, of candidates enrolled between the years of 2010 and 2013. The study population consisted of a total of *N*=203 of students that started their study programme in 2010, and completed the MBA programme either in 2012 or 2013, respectively (3 – 4 years). Logistic regression analysis was applied to determine the significance and the unique contributions of each of the predictors (biographical variables and eight managerial competencies) to academic success. The managerial competency that was best related to MBA academic performance was *Creating and conceptualising* followed by *Supporting and co-operating*. Results further indicated that the *age* of participants was related to academic success in that younger students were more representative in successfully completing the MBA within the allotted timeframe than older students were.

Key words: management education, managerial competencies, personality, prediction, managerial success, MBA, academic success, curriculum

INTRODUCTION

Business Schools have been under tremendous pressure to stay relevant in the demanding labour market of the 21st century. The quest to deliver effective managers with the necessary competencies and skills has been one of the biggest challenges for business schools internationally (Doria, Rozansky, & Cohen, 2003, p.2). In order to get insight into which competencies graduate students need to develop, business schools need to understand the requirements of the workplace for effective performance of managers (Boyatzis & Saatcioglu, 2007, p. 93).

The question thus arises which managerial competencies are more important in the development of effective managers. Boyatzis (2008, p. 5) found that the competencies of emotional-, social- and cognitive intelligence has a positive relationship in the prediction of effective and professional management and leadership. Supporting these findings, Dreyfus (2008, p. 76) found that managers with good people skills were effective; and further concludes that technical ability alone is not adequate for effective management.

Some literature exists on the relationship between specific competencies and managerial success. However, very little literature exists on the relationship between managerial competencies and the academic ability of university students. The premise of this study is that if certain competencies are important for subsequent managerial success, it is also of importance to know their relationship to academic success. These competencies are important in managerial education, and academic success predicts managerial success (Bhardwaj & Punia, 2015, p. 70). Thus, the aim of this study was to study the relationship between assessed managerial competencies and the subsequent academic success of students in an academic managerial education (an MBA-) programme.

Competency defined

Boyatzis (2008, p. 6) defines a competency simply as "*a capability or ability"* in individuals. The author further explains that a competency is related to a set of different behaviours around a specific construct, which can be developed and improved in adults. In the workplace the focus falls however on *managerial competency*, which Hellriegel, Jackson and Slocum, (2005, p. 36) describes as "*a combination of knowledge, skills, behaviours and attitudes"* that is needed to effectively perform in organisational positions. Bartram (2004, p. 3), on the other hand, defines managerial competencies as *sets of behaviours that are instrumental in the delivery of desired results.* Finally, the fullest definition of managerial competency comes from Königová, Urbancová

and Fejfar (2012, p. 131), who define it as "*a set of specific knowledge, abilities, skills, traits, motives, attitudes and values that are implemented by means of the necessary behaviour that will achieve the level of performance required".* As indicated by the above definitions, there is not necessarily one agreed upon definition of competency to be found in the literature. However, for the purpose of this study, and based on those above, managerial competencies will be defined as *"a set of managerial competencies and preferred style of behaviour most relevant to achieve the required performance in a specific job"*.

The difference between competencies and skills

Some uncertainty exists about the difference of meaning between *competencies* and *skills*. Beckett (2018) explains that there are similarities between the two concepts, but that they are not identical. Beckett further explains that skills define learned activities. In the recruitment process, the skills a person possesses are assessed to determine whether the person is suitable for a specific workplace activity. Skills are about the "what", and determines what types of abilities are needed to perform a specific activity or job (Beckett, 2018). Regarding competencies, Beckett (2018) concludes that competencies gives the answer to the "how". Competencies can be accessed and determine how well a person performs in order to obtain a certain result. Competencies translates skills into certain workplace behaviours that demonstrates the ability to perform job requirements competently (Beckett, 2018).

Categorising of skills

The field of management and education generally distinguishes between "soft skills" and "hard skills". Weber, Finely, Crawford, and Rivera (2009, p. 354) categorise hard skills as skills that are related to the technical and administrative domains of competencies, and soft skills as the category associated with human, interpersonal, leadership and conceptual domains of competencies.

Although the term *soft skills* is an accepted term that is often used in the field of management and education, the categorising of *soft skills* varies in the literature. No formally agreed upon, universal category/set of soft skills exists (Matteson, Anderson, & Boyden, 2016, p. 75). Examples of soft skills include: Sociability, self-management, communication skills, ethics, diversity sensitivity, teamworking skills, problem-solving or critical thinking abilities, customer service competencies, emotional intelligence, and leadership skills (Matteson et al., 2016, p. 75).

A big debate exists around obtaining consensus on categorising certain skills. One prominent example of debate is that problem-solving or critical thinking abilities are sometimes categorised as soft skills. Welton (2016, p. 1) disagrees with the trend that critical thinking is being categorised as a soft skill. According to Welton (2016, p. 1) critical thinking entails a diverse range of intellectual skills and activities that involves evaluating information in a disciplined way. The core of critical thinking is the ability to construct and evaluate arguments. Welton (2016, p. 1) further explains that the training of critical thinking is about teaching *"how to analyse, evaluate, explain, and restructure your thinking, thereby decreasing the risk of adopting, acting on, or thinking with, a false belief."*

Weber et al. (2009, p. 359) opines that soft skills makes the difference between success and failure in management, and emphasizes the importance of communication with others and understanding the emotions of others. Supporting this, Stevenson and Starkweather (2010, p. 670) found that soft skills were highly valued as indicator of effective management. Murti (2014, p. 33) contemplates that although there has been a growing awareness of the need for soft skills, business schools are not implementing it in their curricula. Murti further emphasises that it is not a new conclusion that soft skills are a prerequisite for business success, nor is it new to MBA graduates.

The development of competencies

The demand for effective managerial competencies from the labour market are evident. The question arises whether these competencies can be developed. Bhardwaj and Punia (2015, p. 77) found this indeed to be possible. The authors conclude that in early stages of life already, certain qualities start developing through socialisation in the family circle and are further developed through formal education systems. Dreyfus (2008, p. 90), supports this finding that soft skills can be developed by noting that managers who reported being insensitive towards others early in their careers, learned later in their careers to overcome this and improve interpersonal skills.

Boyatzis and Saatcioglu (2007, p. 92) found that emotional-, social- and cognitive intelligence competencies can all be developed in adults through formal graduate management education. The authors further found that such improvements of competencies can be sustained as long as seven years. Dreyfus, (2008, p. 90) found that practice was the most essential factor in using and sustaining abilities effectively. The simulation-based training approach which Salas, Wilson, Lazzara, King and Augenstein (2008, p. 4) describe as "an approach that focuses on providing an opportunity for individuals to develop and practice the competencies required and are also

provided with feedback", supports the mentioned view of Dreyfus (2008, p. 90) in highlighting training, practice of abilities.

Competency models

After the identification of needed competencies for enhanced performance of managers, a competency model needs to be created. A competency model can be defined as a cluster of identified competencies, which together will enhance effective performance of a specific job content (Krajcovicova, Caganova, & Cambal, 2012, p. 1119). Krajcovico et al. (2012, p. 110) explains that competency models are used to facilitate recruitment and design of training and development and as such becomes the basis of the evaluation of job performance and career planning.

This study makes use of the Universal Competency Framework (UCF) that was developed by SHL management consultancy (Bartram, 2011; SHL, 2018). This generic framework provides a resource for the development and analysis of competency models across different industries and demographics. Bartram (2011, p. 12) defines the UCF as "*a single underlying construct framework that provides a rational, consistent and practical basis for the purpose of understanding people's behaviours at work and the likelihood of being able to succeed in certain roles and in certain environments"*. This framework presents a model of performance consisting of eight broad competency factors, referred to as the "Great Eight" (Bartram, Robertson, & Callinan, 2002; Kurz & Bartram, 2002). The development of this framework is consistent with previous models in competency practice (Gotoh, 1999; Kurz, 1999; Kurz, Bartram, & Baron, 2004). Multidimensional scaling analysis of self- and manager ratings of workplace performance was used to develop the framework of the Great Eight competencies, and provides a criterion-centric model that can be used to determine the validity of potential predictors of performance (Bartram, 2005, p. 1185). The Great Eight was derived from the so called Big Five in the domain of predicting personality, because they appear to occupy a similar position within the work performance domain (Bartram et al., 2002; Kurz & Bartram, 2002) (The 'Big Five' being Extraversion, Openness to experience, Agreeableness, Conscientiousness and Emotional stability). Table 1 below portrays the relation and definitions of these competencies to the Big Five personality domains.

Table 1: *Titles and definitions of the Great Eight competencies and Big Five relation*

Competency domain title	**Competency domain definition**	**Hypothesized Big Five, motivation, and ability relationships**
1. Leading and Deciding	Takes control and exercises leadership. Initiates action, gives direction, and takes responsibility.	Need for power and control, Extraversion
2. Supporting and Cooperating	Supports others and shows respect and positive regard for them in social situations. Puts people first, working effectively with individuals and teams, clients, and staff. Behaves consistently with clear personal values that complement those of the organization.	Agreeableness
3. Interacting and Presenting	Communicates and networks effectively. Successfully persuades and influences others. Relates to others in a confident, relaxed manner.	Extraversion, general mental ability
4. Analysing and Interpreting	Shows evidence of clear analytical thinking. Gets to the heart of complex problems and issues. Applies own expertise effectively. Quickly takes on new technology. Communicates well in writing.	General mental ability, Openness to experience
5. Creating and Conceptualizing	Works well in situations requiring openness to new ideas and experiences. Seeks out learning opportunities. Handles situations and problems with innovation and creativity. Thinks broadly and strategically. Supports and drives organizational change.	Openness to experience, general mental ability
6. Organizing and Executing	Plans ahead and works in a systematic and organized way. Follows directions and procedures. Focuses on customer satisfaction and delivers a quality service or product to the agreed standards.	Conscientiousness, general mental ability
7. Adapting and Coping	Adapts and responds well to change. Manages pressure effectively and copes well with setbacks.	Emotional stability
8. Enterprising and Performing	Focuses on results and achieving personal work objectives. Works best when work is related closely to results and the impact of personal efforts is obvious. Shows an understanding of business, commerce, and finance. Seeks opportunities for self-development and career advancement.	Need for achievement, Agreeableness

From the information in Table 1, Bartram (2005, p. 1188) concludes that although the Big Five personality measures provide some coverage of the Great Eight criterion, the relation is not exact, and advises that the two models should rather be applied separately. This should provide clearer and stronger patterns of relationships than it would when using a mixed model of the two mentioned models.

Managerial competencies and managerial effectiveness

In theory, the same competency should be able to be applied in different settings or domains (Levina & Vaast, 2005, p. 358). Bartram (2011) supports this assertion when he explains that

managerial competencies are specific behaviours that help employees to achieve specific work and organisational objectives and that competencies are not limited to a specific job or sector, but can be applied across occupations and jobs (Bartram, 2011). The study of Levina and Vaast (2005, p. 358) in support of this theory, showed that technical competencies could support knowledge management across boundaries.

In the quest to find such relationship between managerial competencies and managerial effectiveness, Bhardwaj and Punia (2015, p. 77) found that the competencies related to successful and effective management are communication skills, team-working, pro-activeness, vision, self-management, result-orientation, strategic-orientation, ambition, persistence, decision-making, risk-taking and creativity. Dreyfus (2008, p. 76) supports this finding in concluding that good people skills are what mattered when it comes to effective management. Boyatzis (2008, p. 5) found that emotional-, social- and cognitive intelligence had a relationship to effective management. Ramo, Saris,and Boyatzis (2009, p 771) similarly found social- and emotional competence and personality traits are good predictors of management performance. Further confirmation of a positive relationship between emotional intelligence and managerial performance was found by Langhorn (2004, p. 227). The critical core competencies to managerial success, according to Stevenson and Starkweather (2010, p. 663), are leadership, the ability to communicate at multiple levels, verbal and written skills, attitude and the ability to deal with ambiguity and change. Examining the list of competencies mentioned from the literature above, it can be seen that there is not consensus on which competencies are the best predictors of managerial effectiveness. However, certain competencies are also recognised as being important by multiple authors, such as emotional- and social intelligence, communication skills and good people skills (Bhardwaj & Punia, 2015; Boyatzis, 2008; Langhorn, 2004; Ramo et al., 2009; Stevenson & Starkweather, 2010).

Managerial competencies and graduate success

Looking into the relationship of managerial competencies and academic success in general tertiary education, a positive relationship between emotional intelligence and academic performance of graduate nursing students was found by Beauvais et al. (2014, p. 1). (As mentioned before, emotional intelligence is categorised as a typical "soft skill" (Matteson et al., 2016, p. 75). In a correlational study, Fernandez and Salamonson, (2012, p. 3485) confirmed that emotional intelligence has a significant predictive value towards first year academic performance of nursing

students. Swanepoel and Britz, (2017, p. 171) similarly found a positive relationship between emotional intelligence and academic performance in management education.

Very little empirical literature exists on the relationship between managerial competencies and the academic ability of university students. This study aims to illuminate on the insufficient literature in this field of knowledge.

Research aims

It has been established that one of the challenges business schools face, are to provide graduates with effective competencies that result in not only managerial effectiveness and success, but also in the academic performance of students (Boyatzis & Saatcioglu, 2007; Doria et al., 2003). Since literature further shows that competencies can be developed and improved (Bhardwaj & Punia, 2015; Boyatzis & Saatcioglu, 2007; Dreyfus, 2008), it is also in the interest of business schools to develop such managerial competencies of graduates and to include competencies in their curriculum that the labour market demands.

In studying the literature, it was found that certain deficiencies within the field of knowledge concerning the relation between managerial competencies to student success in management education programmes exist. At the same time, competencies apply across settings and domains (i.e. those that are important for managerial *education* may also be important for managerial *practice*, see Levina & Vaast, 2005). Doria et al..(2003, p. 2) looked at deficiencies of MBA curricula and quality of MBA education but did not specifically correlate competencies with academic success. However, we have also presented an argument above, that academic success is related to subsequent occupational and/or managerial success, and that managerial competencies are important for academic performance in an academic programme aimed at developing said competencies. This research aims to highlight the link between competencies gained in managerial education and subsequent academic performance of enrolled students at a specific business school.

RESEARCH METHOD

Research design

A cross sectional quantitative research design was followed. The study made use of a data bank of a South African business school of students applying for enrolment to the MBA-programme in 2010. The data consists of MBA student information that was gathered as part of the selection process. The allowed time for MBA completion at the business school of study is a minimum of 3

years and maximum of 4 years. MBA academic results of students that timeously completed the MBA in 2012 or 2013 was compared to competency assessments completed during a selection process that forms part of the MBA-programme entrance requirements. The study aims to identify competencies best related to academic performance during the academic programme of the MBA.

Measuring instruments

Biographical detail collected in the application and enrolment process were utilised. Variables that were included for analysis in the research were previous education, age and home language. Previous education (Christensen, Nance & White, 2012, p. 46), age (Scholtz & Pienaar, 2018, p. 283) and home language, (versus language of instruction) (Scholtz & Pienaar, 2018, p. 283) have variously been identified as important in predicting academic success and were used as control variables in the analysis.

The measuring instrument consists of a cognitive assessment (verbal reasoning and numerical reasoning) and the Occupational Personality Questionnaire (OPQ). An explanation of the content of the cognitive assessments follow (SHL, 2018):

Verbal reasoning questionnaire: This instrument measures the ability to logically evaluate various types of arguments set in the business environment. The test is not focused on language usage, spelling or grammar. The emphasis is on understanding, using and evaluating verbal information presented, the test is comparable to a comprehension test. There is a time constraint on the completion of the assessment. The verbal assessment consists of 48 questions, which must be completed in 25 minutes. In this assessment, a passage or paragraph of text is provided. Participants must then determine whether the statement in the passage is *true, false* or whether the participant *cannot say*, given the information provided in the passage. The assessment is taken down electronically. The format of the choices are as follows:

A – True (the statement follows logically from the information or opinions contained in the passage).

B – False (the statement is logically false from the information or opinions contained in the passage)

C – Cannot say (cannot determine whether the statement is true or false without further information)

Numerical reasoning questionnaire: This questionnaire measures the ability to understand and manipulate numerical data. Data is presented in the form of tables, graphs and charts from which a question is designed.

In order to answer the question, the candidate needs to extract and manipulate the information portrayed as described above. A time constraint applies in that the candidate needs to complete 25 questions within 25 minutes, thus allowing a minute per question. *The candidate is presented with a question deducted from the information portrayed in the table or graph and provided with a multiple choice of five possibilities from which one must be chosen (a, b, c, d or e) in order to answer the question.*

Occupational Personality Questionnaire (OPQ)

The OPQ (SHL, 2018) is used widely and is a respected measure to help organisations understand workplace behaviours that influence performance. The OPQ measures thirty-two personality characteristics related to performance.

The format of the OPQ requires participants to make choices from a given set of statements. The participant must then choose one statement that is *most* like his/her behaviour at work and one statement which is *least* like his/her behaviour at work. Participants then has to indicate their choices by clicking on the appropriate button market "M" for behaviour reflecting behaviour most like theirs in the workplace, or "L" for behaviour that is least like their behaviour in the workplace.

Different management reports can be selected from the OPQ, which are created electronically (SHL, 2018). For the purpose of this study, the Universal Competency Profile report was applied. This report summarises the preferred style or typical way of behaving that is likely to influence an individuals' potential to perform on twenty universal competencies, organised under 8 major dimensions. This report is based on the Universal Competency Framework (UCF). The UCF is a "*single underlying construct framework that provides a rational, consistent and practical basis for the purpose of understanding people's behaviours at work and the likelihood of being able to succeed in certain roles and in certain environments*" (Bartram, 2011). Below follows a layout and explanation of the major 8 dimensions (the "Great Eight") and twenty secondary competencies (SHL, 2018).

1. ***Leading and deciding***

1.1 *Deciding and initiating action*

People who score high on this dimension take responsibility across various domains, works autonomously, is good at generating activity, are able to implement change, and are quick in decision-making.

1.2 *Leading and supervising*

People that score high on this dimension give clear direction, are able to motivate, empower and develop their employees and sets a good example of appropriate behaviour.

2. ***Supporting and co-operating***

2.1 *Working with people*

A high score on this dimension indicates that a person has respect for the views and contributions of others, has empathy and good listening skills. These individuals are also able to build good team spirit, cares for others, are able to reconcile conflict adapt to the team and fits into the team.

2.2 *Adhering to principles and values*

Individuals that score high in this dimension upholds high ethics and values, has integrity and gives fair and equitable opportunities. These individuals further build diverse teams and stands for the rights of the community and the environment.

3. ***Interacting and presenting***

3.1 *Relating and networking*

A person that scores high on this dimension are able to establish good relationships over all levels and build networks. These individuals are able to bring warmth to relationships by appropriate use of humour.

3.2 *Persuading and influencing*

Individuals that score high on this dimension are good negotiators, are persuasive and able to use political processes effectively. Furthermore, these individuals are good spokespersons in promoting ideas of others and has strong personal impact.

3.3 *Presenting and communicating information*

Individuals that scores high on this dimension are fluent speakers that expresses opinions, information and key points in an argument clearly. These individuals are confident public speakers that are able to respond quickly to reactions and feedback of an audience.

4. ***Analysing and interpreting***

4.1 *Writing and reporting*

People that score high on this dimension writes clearly, correctly and convincingly. These individuals' writing has good logic and structure that makes information easily readable and understandable.

4.2 *Applying expertise and technology*

A person that scores high on this dimension applies specialist and detailed technical expertise to achieve goals and continuously develop job knowledge. These individuals understand how different organisational departments function.

4.3 *Analysing*

Individuals that score high on this dimension are able to analyse and break numerical data into component parts, patterns and relationships and seeks greater understanding of problems. These individuals make rational judgements form information and analysis and understands how one issue might be part of a much larger system.

5. ***Creating and conceptualising***

5.1 *Learning and researching*

A person that scores high on this dimension learns and remembers new tasks quickly and are able to present gained knowledge and gather comprehensive supporting information. These individuals encourage an organisational learning approach.

5.2 *Creating and innovating*

Individuals that score high on this dimension are able to produce new ideas, approaches and insights. These individuals create new products or designs and can produce a range of solutions to a problem.

5.3 *Formulating Strategies and Concepts*

People that score high on this dimension work in a strategic fashion to realise goals and also set and develop strategies and inspiring visions of the future of an organisation, while taking a wide range of related issues into account.

6. ***Organising and executing***

6.1 *Planning and organising*

An individual that scores high on this dimension sets clear objectives, plans ahead taking possible changes into account and manages time well. These individuals are able allocate resources to accomplish tasks and monitor performance against deadlines and milestones.

6.2 *Delivering results and meeting customer expectations*

A person that scores high on this dimension are customer orientated and sets high standards for quality and quantity. These individuals consistently achieve goals in a systematic methodical and orderly way.

6.3 *Following Instructions and Procedures*

Individuals that score high on this dimension follows procedures and policies, keep to schedules and are always punctual. Further they are committed to the company and complies to legal and safety regulations

7. ***Adapting and coping***

7.1 *Adapting and responding to change*

People that score high on this dimension are open to change and new initiatives, and easily adapt to different people or situations. They also show interest in new experiences.

7.2 *Coping with pressures and setbacks*

Individuals that score high on this dimension has a positive outlook on work, works well under pressure and are able to manage emotions when under pressure. These individuals handle criticism well and learn from it. They are able to handle a healthy work-life balance.

8. **Enterprising and performing**

8.1 *Achieving personal work goals and objectives*

Persons that score high on this dimension handles challenging goals with enthusiasm, are prepared to work longer hours, seeks progression and increased responsibility and makes use of training and development opportunities.

8.2 *Entrepreneurial and commercial thinking*

Individuals that score high on this dimension are up to date with competing market trends and are able to identify new business opportunities. These individuals have good business sense and are aware of organisational structure and politics.

Validity and reliability

The developers of the measuring instrument conducted research in compliance with the South African Employment Equity Act 55 of 1998 (South Africa, 1998), to include African, coloured and Indian students in equal distribution (SHL, 2009). These validation studies (SHL, 2009) found statistically significant correlations between the results of numerical- and verbal cognitive assessments in comparison to MBA examination results, proving the reliability and appropriate use of the instruments in the South African context. In support, Scholtz and Pienaar (2018, p. 270) found cognitive ability to be related to success specifically of first-year MBA students.

Participants

The target population consisted of the total number of students that were enrolled at a South African business school for the years 2010 to 2013. The study population consists of the total group of students (N=203) that timeously completed the MBA study in either 2012 or 2013 (3 years, with possibility to extend studies for 1 year, i.e. 4 years in total). The participants are described further in Table 3 below.

STATISTICAL ANALYSIS

The databank of a specific business school was utilised to gather the following data; biographical variables, cognitive ability (verbal- and numerical) and MBA academic results. Statistical analysis was done with the aid of the SPSS program (IBM, 2018) and Tibco Statistica (2018). Reliabilities of the sub-scales of the managerial competencies were obtained by the calculation of Cronbach's alpha coefficient. The internal consistency of the two sub-scales of *Leading & deciding* (*Deciding and initiating action, Leading and supervising*) were poor, and these sub-scales were thus portrayed as 2 different questions instead of sub-scales. It was also found that *Coping and adapting*

had a low alpha value, and it was therefore also portrayed as 2 different questions instead of as a scale. The internal consistency (Cronbach's alpha) of all other scales were found to be reliable and are portrayed in table 1 below. *Enterprising and performing* showed a Cronbach's alpha of 0.67, which was deemed close-enough to the values of 0.70, considered acceptable (Pallant, 2013, p. 104).

Table 2: Descriptive statistics and internal consistency of reliable sub-scales

Descriptive Statistics of managerial competencies						
	N	Minimum	Maximum	Mean	Std. Deviation	Cronbach's alpha coefficient
1.1 Deciding & initiating action	143	1	5	3.06	0.88	
1.2 Leading & supervising	143	1	5	2.92	0.83	
1. **Leading & deciding**	143	1	4.5	2.99	0.61	
2.1 Working with people	143	1	5	2.86	0.95	
2.2 Adhering to principles and values	143	1	5	2.96	1.00	
2. **Supporting & co-operating**	143	1.0	5.0	2.91	0.93	0.89
3.1 Relating & networking	143	1	5	2.73	0.92	
3.2 Persuading & influencing	143	1	5	2.73	1.02	
3.3 Presenting & communicating information	143	1	5	2.90	0.85	
3.**Interacting & presenting**	143	1.0	5.0	2.79	0.82	0.86
4.1 Writing & reporting	143	1	5	3.03	0.86	
4.2 Applying expertise & technology	143	1	5	3.15	0.94	
4.3 Analysing	143	1	5	3.03	1.06	
4. **Analysing & interpreting**	143	1.0	5.0	3.08	0.88	0.91
5.1 Leaning & researching	143	1	5	3.03	1.06	
5.2 Creating & innovating	143	1	5	2.88	1.00	
5.3 Formulating strategies & concepts	143	1	5	3.24	0.99	
5. **Creating & conceptualising**	143	1.3	5.0	3.05	0.93	0.91
6.1 Planning & organising	143	1	5	3.34	0.88	
6.2 Delivering results & meeting customer expectations	143	1	5	3.03	0.93	
6.3 Following instructions & procedures	143	1	5	3.07	1.13	
6. **Organising & executing**	143	1.3	5.0	3.14	0.82	0.76
7.1 Adapting & responding to change	143	1	5	2.81	0.85	
7.2 Coping with pressures & setbacks	143	1	5	3.16	0.93	
7. **Adapting & coping**	143	1.0	4.5	2.99	0.67	
8.1 Achieving personal work goals & objectives	143	1	5	3.01	0.84	
8.2 Entrepreneurial & commercial thinking	143	1	5	3.01	0.88	
8. **Enterprising & performing**	143	1.0	5.0	3.01	0.75	0.67

Logistic regression analysis was applied to determine the significance and the unique contributions of each of the predictors (age, year, gender, qualification, language, two questions each of *Leading and deciding* and *Adapting & coping*, and the scales of *Supporting and co-operating, Interacting and presenting, Analysing and interpreting, Creating and conceptualising, Organising and executing,* and *Enterprising and performing)* of MBA academic performance. Logistic regression is particularly suited to cases where the outcome variable is on two levels – in this case, completing the MBA programme within the allocated time (3 – 4 years), or failing to do so (i.e. dropping out of the programme). Thereafter, stepwise logistic regression was performed to determine the order of importance of these variables as predictors of MBA completion. The manual of effect size indices (Steyn, 2012) was followed to interpret that R^2 = 0.01 is of small effect; R^2 = 0.10 is of medium effect; and R^2 = 0.25 is large effect. To interpret the importance of the odds radio in practice, the following guidelines were used: 1.5 = a small effect; 2.5 = a medium effect; and 4.25 = a large effect (Steyn, 2012).

To further evaluate the predictive logistic regression model, ROC curve analyses were applied. ROC stands for Receiver Operating Characteristic. The ROC curve is used to correctly predict a positive as a positive, as well as a negative as a negative by plotting *sensitivity* (the probability of predicting a real positive will be a positive), against *specificity*, (the probability of predicting a real negative will be a positive), (Grace-Martin, 2008). The area under the ROC curve (AUROC) should be between 0.5 and 1.0, which indicates how well the model discriminates between successful and unsuccessful groups. To explore the goodness of fit of the model, the Hosmer-Lemeshow test was applied. The Hosmer-Lemeshow test calculates if the observed event rates match the expected event rates in population subgroups.

The *Phi*-coefficient was applied to measure the association between binary variables. A Box-Cox transformation (see Tibco Statistica, 2018) was performed on the variable age in order to transform it into a normal distribution with constant variance.

Biographical categories

Age and *gender* information were collected at enrolment.

Previous education was categorised as either a B.Com qualification or any other bachelors' qualification. The MBA selection criteria concerning previous education does not require a B.Com degree *per se*, but applicants are required to possess a Bachelor's degree (in any field of study).

The reasoning behind this split was that the foundation of the B.Com degree is most closely aligned with the focus of the MBA (for example business studies, economics). Therefore, students with a B.Com undergraduate qualification may be better equipped to deal with the demands of the MBA-programme due to similarity in programme content.

Concerning *language*, the population of the study had various different home languages. The largest category of the population had English or Afrikaans as home language. The rest of the population were represented by smaller categories of various African languages, namely Sesotho, Setswana, isiZulu and isiXhosa. For these and historical reasons, it was decided to categorise language as English and Afrikaans (category 1), and other languages (category 2). Historically, language in education within South Africa has always been a contentious issue. On the one hand, the drive of mother-tongue education has been played off against the pressing need to be proficient in international languages, of which English is the most prominent.

RESULTS

Biographical characteristics of study population

Biographical characteristics of the study population are indicated in Table 3 below. Table 3 also provides information on the success (pass) or fail rate of the MBA programme.

Table 3: Biographical characteristics of the study population (N= 203)

			MBA SUCCESS (4 missing)		**Phi-coefficient**
			Pass	**Fail**	
Gender	Male	151 74%	106 70%	45 30%	.07
	Female	52 26%	40 77%	12 23%	
	Total	203 100%	146 72%	57 28%	
Language	English/Afrikaans first language	131 65%	108 82%	23 18%	-.32
	Other first language	72 35%	38 53%	34 47%	
Former education	B.Com	47 23%	33 70%	14 30%	.02
	Other qualifications	156 76%	113 72%	43 28%	
Year	2012	101	76 75%	25 25%	.07
	2013	102	70 69%	32 31%	

Table 3 above portrays that language proved to have significance, in that 82% of students with

English or Afrikaans as first language passed, while only 53% of students with other languages as first language passed. The Phi-coefficient of 0.32 indicates a relation of medium effect size between MBA success and first language.

Age

The ages of the population varied between 28 years as the youngest and 65 years of age, as the oldest. The average age (mean) of the population was 41 years of age with a standard deviation of 7.5. The mean age of student that passed was 39.7 and the mean age of students that failed was 44.4. The Cohen's d-value (Cohen, 1988) was .64 showing that younger students were more represented in the pass category than their older fellow students.

Stepwise logistic regression was performed to assess the predictive value of the independent variables (age, language, the reliable scales namely Supporting and co-operating, Interacting and presenting, Analysing and interpreting, Creating and conceptualising, Organising and executing and Enterprising and performing, and the individual questions from the scales *Leading and deciding and Adapting and coping* to MBA academic performance and results are portrayed in Table 4 below. To interpret the importance of the odds radio in practice, the following guidelines were used: 1.5 = a small effect; 2.5 = a medium effect; and 4.25 = a large effect (Steyn, 2002).

Table 4: Logistic regression of variables

Effect	Odds Ratio	Lower CL 95.0%	Upper CL 95.0%	Effect size
Intercept				
Age	>10000	*	*	large
Creating & conceptualising	2.25	1.35	3.74	medium
Supporting & co-operating	1.76	1.07	2.90	small

* Not sensible – very large

This analysis proved *age* to be the best predictor of MBA academic performance with a large odds ratio, interpreted as being of large effect size (Steyn, 2012). The second best predictor of MBA academic performance was the competency *Creating and conceptualising*, with an odds ratio of

2.25 and medium effect size. *Supporting and co-operating* was the third best predictor with an odds ratio of 1.76 and a small effect size (Steyn, 2012).

Table 5 below portrays a classification table to indicate how well the model is able to predict MBA academic performance.

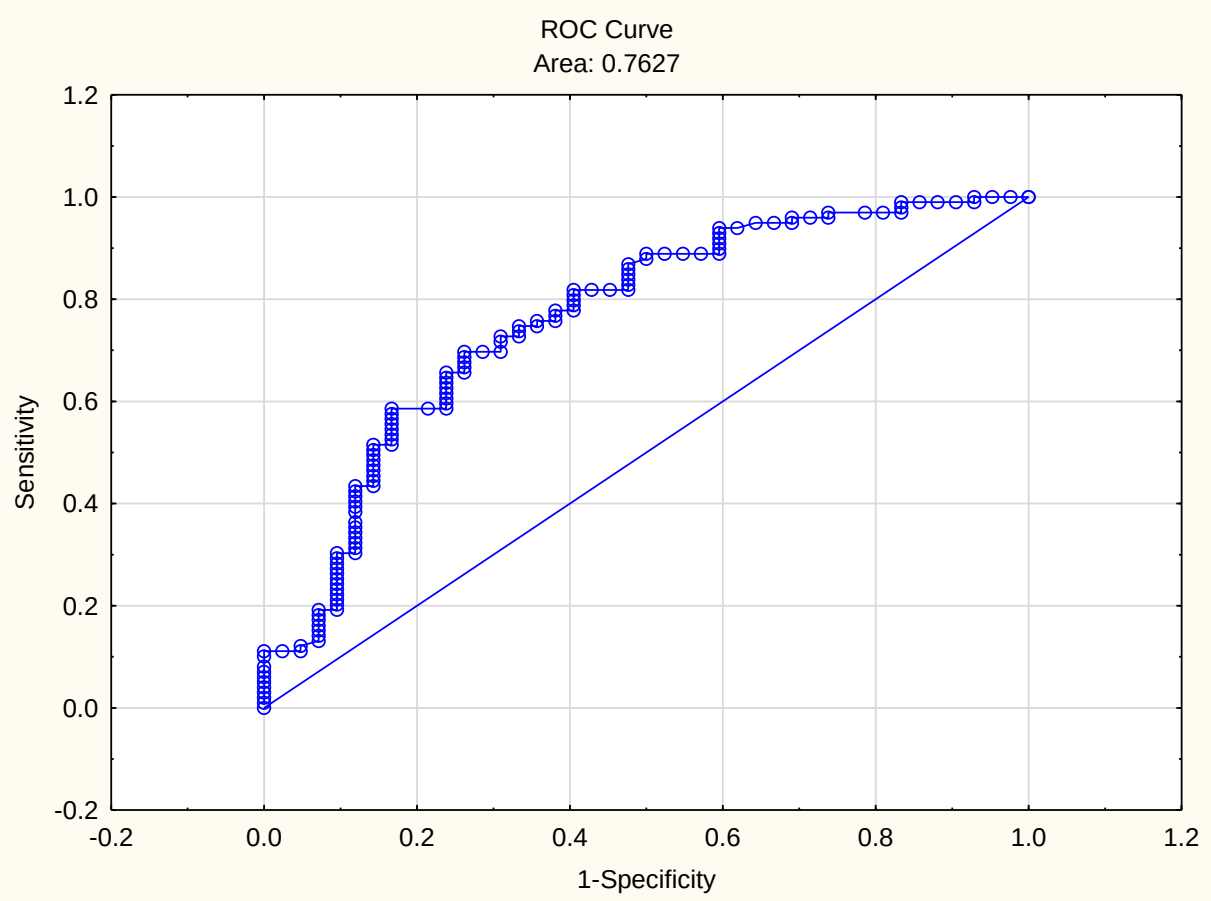
Table 5: Classification Table

	Classification of cases		
	Predicted: Pass	Predicted: Fail	Percent correct
Observed: Pass	92	7	92.9
Observed: Fail	25	17	40.5

Table 5 shows that the number of cases which were correctly classified to be positive to predict academic success and were actually observed to be a success (i.e. the sensitivity), were 92.9 per cent correctly predicted. The results in Table 5 further portray the number of cases which were correctly classified to be negative and were predicted to fail the MBA and were actually observed to be a failure at 40.5% (i.e. the specificity). The pass-category was thus well explained by the indicated variables, but the fail-category was explained less well. To explore the goodness of fit of the model, the Hosmer-Lemeshow test was applied and showed support for the model (Chi-square = 7.43, p = 0.49).

Figure 1 below indicates an AUROC of 0.7627, which confirms a good fit to the predictive model.

Figure 1: ROC Curve



Discussion

The main aim of the study was to relate managerial competencies, as assessed as part of an MBA selection process, to subsequent academic performance in said programme. We advanced the argument that managerial competencies are not only important for managerial success but that they may also be related to academic success (here measured as failing or passing a specific academic programme). The study elaborates on the overlap between the competencies we measured that predict academic success, that also predict managerial success, according to the literature. The study further aimed to determine which (if any) of the biographic variables age, gender, previous qualification and language are related to MBA academic success.

The results of the study showed that of the eight main dimensions (great 8) of managerial competencies measured, *Creating and conceptualising* was the best predictor of MBA academic success, with a medium effect size (Steyn, 2012). The competency of *Creating and conceptualising*, consists of three sub-scales namely; Learning and researching, ii) Creating and

innovating, and iii) Formulating strategies and concepts. The first sub-scale, *Learning and researching* indicates the ability to learn and memorise new tasks quickly and the ability to present the knowledge gained with comprehensive supporting information. This subscale may be related to academic performance through searching, integrating and presenting information, and synthesizing information into knowledge. The second subscale, *Creating and innovating,* depicts the ability to create new innovative ideas, approaches and insights. It further depicts the ability to create new designs or products and produce multiple solutions to a problem. This subscale may be related to academic performance in fields where these competencies are relevant, for instance in the fields of Entrepreneurship and Innovative Problem Solving. The third sub-scale, *Formulating strategies and concepts,* indicates the ability of thinking strategically to obtain goals and formulate long-term strategy and visions, while considering all related issues. This subscale may be relevant in academic performance of subject fields where the formulation and implementation of strategy are required, but even for planning own studies and career.

The reason that this competency was found to be a better predictor than the other competencies analysed, could be that the curriculum and aim of the MBA programme of the business school of study has a large focus on the formulation and implementation of strategy. Additionally, the research module and mini dissertation included in this curriculum could be associated with the sub-scale *Learning and researching* as described above. Hence, students that scored high on this competency, should portray their strength in the research module and mini dissertation in their MBA academic performance. Previous research (Scholtz & Pienaar, 2018) found that 88% of students that required the additional fourth year of study, (after a three year MBA programme), were registered for the research module (mini-dissertation) in the fourth year, thus influencing throughput. Developing this competency in managerial education is thus of practical importance for business schools.

The second managerial competency most predictive of academic success was *Supporting and co-operating,* with a small effect size (Steyn, 2002). The competency *Supporting and co-operating* consists of two sub-scales namely; *Working with people* and *Adhering to principles and values.* The first sub-scale, *Working with people,* indicates respect for others views, empathy, good listening skills, caring for others, creating good team spirit and the ability to resolve conflict. The way this competency can be thought to relate to academic performance is through demonstrating these abilities and knowledge in subject fields where these competencies are relevant, for instance in the fields of Organisational Behaviour and Leadership. Practically, these skills are also

necessary for managing work in groups during academic studies. Previous research has shown that the ability to work with others is very important for not only academic success (Fernandez & Salamonson, 2012; Swanepoel & Britz, 2017), but also managerial performance (Bhardwaj & Punia, 2015; Boyatzis, 2008; Ramo et al., 2009). The second sub-scale, *Adhering to principles and values* refers to individuals with integrity, high ethics and values, social and environmental responsibility, and ability to build diverse teams. The way this competency can be thought to relate to academic performance is through demonstrating these abilities in subject fields like Ethical and Transformational Leadership, Environmental Management and Social Responsibility.

From the results above we see that both "hard skills" and "soft skills" has predictive value towards performance on the MBA programme. *Creating and conceptualising* can be deemed related to intelligence and critical thinking, which would be categorised as "hard skills", while *Supporting and co-operating* is related to social skills which would be categorised as "soft skills".

The biographical variable *age,* showed the best prediction of academic success with a large effect size (Steyn, 2012). This is in contrast with the presumption that work experience is related to MBA success as portrayed in the selection requirements of most business schools. This result corresponds with the findings of Scholtz and Pienaar (2018, p. 283) and Ekpenyong, (2000, p. 50), in finding that younger students were more representative in successfully completing the MBA within the allotted timeframe than older students were. Regarding the relation of age to managerial success, the opposite may be true, in that older managers with more experience might be more successful than younger managers. Marchant, et al. (2009, p. 433) found that as employees aged, their mental toughness increased, which made them more effective as managers, by an enhanced sense of self-belief and unshakable faith in achieving success.

One of the prerequisites for the programme under investigation, still requires three years working experience although younger students proved to perform better academically than older students. The dimension of age, entwined with the MBA-programme entrance requirement of work experience, and the finding that greater experience is related to being a better manager in other research, seems to present a conundrum. Younger students perform better in academic studies – also in management studies – but it is with experience that one becomes a better manager. It may however be so that completion of the MBA also speeds progression into a managerial position. These relationships are worth investigating in future research.

Language proved to have significance in that 82 per cent of students with Afrikaans or English as home language passed within the required time, while only 53 per cent of students with other languages as first language passed within the required time. In support of this finding, English proficiency was found to also have an influence on academic success within international context (Berman & Cheng, 2001; Dooey & Oliver 2002; Woodrow, 2006). Gender and previous qualification did not show significance in relation to academic performance.

Managerial implications

The viability of Business Schools depends on delivering the management skills the market demands (Bennis & O'Toole, 2005, p. 96). Findings of this study highlighted the importance of the competency *Creating and conceptualising* (with sub-scales of *Learning and researching, creating and innovating* and *Formulating strategies and concepts*)**.** These competencies had the most significant relation to MBA academic success and are of importance for managerial effectiveness (Patanakul & Milosevic (2008, p. 128). Patanakul and Milosevic found that the competency of strategic thinking is key to managerial effectiveness. The said skills will probably be categorized as *hard skills* rather than *soft skills* (Welton, 2016, p. 1).

Findings of this study further showed that the competency *Supporting and co-operating* (with sub-scales of *Working with people* and *adhering to principles and values*) is related to academic success. The competencies contained in this dimension have also been found to have relation to effective management in literature and are typically categorised as *soft skills* (Matteson et al., 2016, p. 75).

From the literary review it becomes clear that business schools need to adapt their curriculum to put more emphasis on the skills that the corporate market demand. Wellington (2005, p. 628) pleads that soft skills need extra emphasis in university curricula so that students are exposed to soft skills before they are exposed to a corporate business career. The demand for soft skills in the curriculum of management training is echoed by several authors (Bennis & O'Toole, 2005; GMAC, 2012; Matteson et al., 2016; Navarro, 2008; Stevenson & Starkweather, 2010; Weber et al., 2009). The annual survey developed by the Graduate Management Admissions Council (GMAC) reports that soft skills are what the corporate market expects of MBA graduates (GMAC, 2012, p. 28). The opinion of Navarro (2008:117) is that MBA curricula is limited to the traditional functional silo pillars that focus too much on "hard science" and too little on soft skill development.

Although the literature above pleads for more emphasis on "soft skills", results still suggest a need for a balance in academic curricula with "hard skills". Balcar (2016, p. 469) opines that the appropriate solution is the simultaneous accumulation of soft- and hard skills in the framework of education systems. O'Shannassy, Kemp and Booth (2010, p. 478) argue that "soft skills" interact with, and assist the sound practice of "hard skills".

Considering the importance of *practice* in sustaining abilities effectively, Salas, Wildman and Piccolo (2009, p. 572) suggest that a simulation-based training approach should be considered by educational institutions. The authors poses the question whether certain skills or experiences could not be taught more effectively in a highly immersive realistic setting, and performance also thus be accurately measured. In support of the above literature and findings of this study it is recommended that business schools revisit and adapt their curricula to suggestions made in literature as well as market demands in order to stay relevant and viable.

Limitations of the study

Only one business school in South Africa formed the population of the study. Results may thus not be generalised to all business schools at all times. The business school under investigation is accredited with an international MBA-accreditation body however, and as such is in line with international curriculums, trends and standards.

A further limitation lies therein that the classification of the model fit was indicated that only 40.5 per cent of cases were correctly predicted to be negative in the fail category. The reason might be the fact that the fail category contained only 25 students; with small numbers logistic regression often does not predict well (Ranganathan, Pramesh & Aggarwal, 2017, p 140). A larger sample of dropouts would be needed to improve on these findings.

REFERENCES:

Balcar, L. (2016). Is it better to invest in hard or soft skills? *Economic and Labour Relations Review, 27*(4), 453-470. https://doi.org/10.1177/1035304616674613

Bartram, D. (2004). SHL White Paper: The SHL corporate leadership model. Retrieved from https://www.researchgate.net/publication/237681604_The_SHL_Corporate_Leadership_Model

Bartram, D. (2005). The great eight competencies: A criterion-centric approach to validation. *Journal of Applied Psychology*, *90*(6), 1185-1203.

Bartram, D. (2011). SHL White paper: Universal competency framework. Retrieved from http://connectingcredentials.org/wp-content/uploads/2015/02/The-SHL-Universal-Competency-Framework.pdf

Bartram, D., Robertson, I. T. & Callinan, M. (2002). Introduction: A framework for examining organisational effectiveness. In I. T. Robertson, M. Callinan, & D. Bartram (Eds.), *Organisational effectiveness: The role of psychology*, (pp. 1-12). s.l.: Wiley. https://doi.org/10.1002/9780470696736.ch

Beckett, S. (2018, March 14). What is the difference between skills and competencies? [Blog post]. Retrieved from https://resources.hrsg.ca/blog/what-s-the-difference-between-skills-and-competencies

Beauvais, A. M., Stewart, J. G., DeNisco, S. & Beauvais, J. E. (2014). Factors related to academic success among nursing students: A descriptive correlational research study. *Nursing Education Today*, *34*(6), 918-923.

Bennis, W., & O'Toole, J. (2005). How business schools lost their way. *Harvard Business Review*, *83*(5), 96 – 104.

Berman, R., & Cheng, L. (2001). English academic language skills: Perceived difficulties by undergraduate and graduate students, and their academic achievement. *Canadian Journal of*

Applied Linguistics, 4(1–2), 25–40.

Bhardwaj, A., & Punia, B. K. (2015). Managerial competencies and their influence on managerial performance: A literature review. *International Journal of Advanced Research in Management and Social Sciences, 2*(5), 70-84. doi: 10.1016/j.nedt.2013.12.005

Boyatzis, R. E. (2008). Competencies in the 21st century. *Journal of Management Development, 27*(1), 5-12. https://doi.org/10.1108/02621710810840730

Boyatzis, R. E., & Saatcioglu, A. (2007). A twenty year view of trying to develop emotional, social and cognitive intelligence competencies in graduate management education. *Journal of Management Development, 27*(1), 92-108. https://doi.org/10.1108/02621710810840785

Christensen, D. G., Nance, W. R., & White, D. W. (2012). Academic performance in MBA programs: Do prerequisites really matter? *Journal of Education for Business, 87*(1), 42–47. https://doi.org/10.1080/08832323.2011.555790

Cohen, J. (1988). Statistical power analysis for the behavioral sciences (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum.

Dooey, P., & Oliver, R. (2002). An investigation into the predictive validity of the IELTS test. *Prospect, 17*(1), 36–54.

Doria J., Rozanski H., & Cohen, H. (2003). What business needs from business schools. *Strategy & Leadership, 32*, 1-8. Retrieved from https://www.strategy-business.com/article/03305?gko=6ba64

Dreyfus, C. R. (2008). Identifying competencies that predict effectiveness of R & D managers. *Journal of Management Development, 27*(1), 76-91. https://doi.org/10.1108/02621710810840776

Ekpenyong, B. (2000). Empirical analysis of the relationship between students' attributes and

performance: A case study of the University of Ibadan (Nigeria) MBA programme. *Journal of Financial Management & Analysis, 13*(2), 54-63.

Fernandez, R., & Salamonson, J. (2012). Emotional intelligence as a predictor of academic performance in first year accelerated graduate entry nursing students. *Journal of Clinical Nursing, 21*(23-24), 3485–3492. https://doi.org/10.1111/j.1365-2702.2012.04199.x

GMAC ***see*** Graduate Management Admissions Council.

Gotoh, A. (1999). *The evaluation of competencies predictors across nine studies in five countries* (Unpublished MSc thesis). Goldsmith College, London.

Grace-Martin, K. (2008). *What is a ROC curve?* The Analysis Factor. Retrieved from https://www.theanalysisfactor.com/what-is-an-roc-curve/

Graduate Management Admissions Council. (2012). *Corporate recruiters survey 2012: Survey report*. Retrieved from https://www.gmac.com/-/media/files/gmac/research/employment-outlook/2012-crs-report-final-participants.pdf

Hellriegel, D., Jackson, S. E., & Slocum, J. W., Jr. (2005). Management (10th ed.). Mason, OH: Thomson/South-Western.

Hill, K. L., G. E. Hynes, M. P. Joyce and J. S. Green. 2011. GMAT AWA score as a predictor of success in managerial communication course. Business Communications Quarterly 74: 103–118.

IBM. (2018). SPSS Statistics (Version 25, Release 23.0.0). Retrieved from http://www-01.ibm.com/software/analytics/spss/

Königová, M., Urbancová, H., & Fejfar, J. (2012). Identification of managerial competencies in knowledge-based organizations. *Journal of Competitiveness, 4*(1), 129-142,

Krajcovicova, K., Caganova, D., & Cambal, M. (2012). Key managerial competencies and competency models in industrial enterprises. In B. Katalinc, (Ed.), *Intelligent*

manufacturing & automation: Proceedings of the 23rd International DAAAM Symposium (pp. 1119-1122), 24-27 October 2012, Zadar, Croatia. Vienna: DAAAM International. Retrieved from https://www.daaam.info/Downloads/Pdfs/proceedings/proceedings_2012/1119_Krajcovicovaatal.pdf

Kurz, R. (1999). Automated prediction of managerial competencies from personality and ability variables. In *Proceedings of the British Psychological Society Test User Conference* (pp. 96–101). Leicester, UK: British Psychological Society.

Kurz, R., & Bartram, D. (2002). Competency and individual performance: Modelling the world of work. In I. T. Robertson, M. Callinan, & D. Bartram (Eds.), *Organisational effectiveness: The role of psychology* (pp. 227-258). Chichester: John Wiley.

Kurz, R., Bartram, D., & Baron, H. (2004). Assessing potential and performance at work: The great eight competencies. In *Proceedings of the British Psychological Society Occupational Conference* (pp. 91–95). Leicester, UK: British Psychological Society.

Langhorn, S. (2004). How emotional intelligence can improve management performance. *International Journal of Contemporary Hospitality Management, 16*(4), 220 – 230.

Levina, N., & Vaast, E. (2005). The emergence of boundary spanning competence in practice: Implications for implementation and use of information systems. *Information Technologies and Knowledge Management, 29*(2), 335-363

Marchant, D. C., Polman, R. C. J., Claugh, P. J., Jackson, J. G., Levy A. R., & Nicholls, A. R. (2009). Mental toughness: Managerial and age differences. *Journal of Managerial Psychology, 24*(5), 428-437. https://doi.org/10.1108/02683940910959753

Matteson, M. L., Anderson, L., & Boyden, C. (2016). "Soft skills": A phrase in search of meaning. *Libraries and the Academy, 16*(1), 71-88. doi: 10.1353/pla.2016.0009

Murti, A.B. (2014). Why soft skills matter. *IUP Journal of soft skills, 8*(3), 32-36.

Navarro, P. (2008). The MBA core curricula of top-ranked US business schools: A study in failure? *Academy of Management Learning & Education, 7*(1), 108–123.

O'Shannasy, T., Kemp, S., & Booth, C. (2010). Case studies in MBA strategic management curriculum development from Australian universities. *Journal of Management and Organization,16*(3), 467–480. https://doi.org/10.1017/S1833367200002091

Pallant, J. (2013). *SPSS Survival Manual: A step by step guide to data analysis using IBM SPSS* (5th ed.). Maidenhead: McGraw Hill.

Patanakul, P., & Milosevic, D. (2008). A competency model for effectiveness in managing multiple projects. *Journal of High Technology Management Research, 18*(2), 118–131. https://doi.org/10.1016/j.hitech.2007.12.006

Ramo, L. G, Saris, W. E., & Boyatzis R. E. (2009). The impact of social and emotional competencies on effectiveness of Spanish executives. *Journal of Management Development, 28*(9), 771-793. https://doi.org/10.1108/02621710910987656

Ranganathan, P., Pramesh, C. S., & Aggarwal, R. (2017). Common pitfalls in statistical analysis: Logistic regression. *Perspectives in Clinical Research, 8*(3), 145-151. doi: 10.4103/picr.PICR_87_17

South Africa. (1998). Employment Equity Act 55 of 1998. Pretoria: Government Printer

Salas, E., Wildman, J. L., & Piccolo, R. F. (2009). using simulation-based training to enhance management education. *Academy of Management Learning & Education, 8*(4), 559-573. https://doi.org/10.5465/amle.8.4.zqr559

Salas, E., Wilson, K. A., Lazzara, E., King, H. B., & Augenstein, J. S. (2008). Simulation-based training for patient safety: 10 principles that matter. *Journal of Patient Safety, 4*(1), 3-8. doi: 10.1097/PTS.0b013e3181656dd6

Scholtz, E. M., & Pienaar, J. (2018). The prediction of the success of first-year MBA candidates. *South African Journal of Higher Education, 32*(5), 270-288.

SHL. (2009). *Objective assessment in MBA selection*. South Africa Research Series. SHL Group Limited. Retrieved from http://companydata.inoxico.com/research-reports/South-Africa/SHL-Saville-and-Holdsworth-(Pty)-Ltd/

SHL. (2018). *Occupational Personality Questionnaire (OPQ): OPQ reimagined.* Retrieved from https://www.shl.com/en/assessments/personality/shl-occupational-personality-questionnaire-opq/

Steyn, H. S. (jr.). (2002) Practically significant relationships between two variables. *SA Journal of Industrial Psychology*, *28*(3), 10-15.

Steyn, H. S. (2012). Manual: Effect size indices and practical significance. North-West University, Potchefstroom. Retrieved from http://natural-sciences.nwu.ac.za/sites/natural-sciences.nwu.ac.za/files/files/SDK/Chapter%208_a.pdf

Stevenson, D. H., & Starkweather, J. A. (2010). PM critical competency index: IT execs prefer soft skills. *International Journal of Project Management, 18*(7), 663– 671. https://doi.org/10.1016/j.ijproman.2009.11.008

Swanepoel, S., & Britz, L. (2017). Emotional intelligence and academic performance. *Alternation Special Edition, 20,* 171-188. https://doi.org/10.29086/2519-5476/2017/sp20a9

Tibco Statistica (version 13.3). (2018). Retrieved from www.statsoft.com.

Weber, M. R., Finely, D. A., Crawford, A., & Rivera, D. J. (2009). An exploratory study identifying soft skill competencies in entry-level managers. *Tourism and Hospitality Research, 9*(4), 353-361. https://doi.org/10.1057/thr.2009.22

Wellington, J. K. (2005). The "soft skills" of success; be it high tech, low tech or no tech. Paper presented at the Arizona Career & Technical Conference (pp. 628-634). Tuscan, AR. *Vital speeches of the day, 71*(20). Retrieved from https://www.vsotd.com/issue/2005-20/soft-skills-success.

Welton, D. (2016). Critical thinking is not a soft skill. *Critical Thinking Group.* Retrieved from http://www.grovecriticalthinking.com/news/2016/9/16/critical-thinking-is-not-a-soft-skill

Woodrow, L. (2006). Academic success of international postgraduate education students and the role of English proficiency. *University of Sydney Papers in TESOL*, *1*, 51–70. Retrieved from http://faculty.edfac.usyd.edu.au/projects/usp_in_tesol/pdf/volume01/article03.pdf

CHAPTER 4 – ARTICLE 3

This manuscript is currently under preparation for submission to a journal

CHAPTER 5 – ARTICLE 4
REASONS FOR DROP-OUT AND NON-COMPLETION OF STUDIES IN AN MBA PROGRAMME: AN INTERPRETIVE PHENOMENOLOGICAL STUDY

Abstract

The focus of this interpretive phenomenological analysis (IPA) was to explore the reasons for drop-out and non-completion of MBA students though reflecting on their lived experience that led to discontinuation of their academic studies. The study followed a qualitative approach, specifically that of interpretive phenomenological analyses (IPA). The sample consists of 8 learners that dropped out from the MBA programme of a South African business school between the years 2013 and 2015. The study sample consisted of eight participants of which three were females and five males, aged between 27 and 54 years old. The main finding of this study was that the interplay of simultaneous events, challenges and demands that participants experienced during their part-time studies, described as coinciding circumstances in this study, was the most prominent reason for student drop-out and non-completion. The findings of this study contributes to the body of knowledge on student attrition by an in-depth understanding of the reasons for MBA drop-out and non-completion through the lived experiences of participants.

Key words: Drop-out, non-completion, part-time study, MBA programme, attrition

INTRODUCTION

Student attrition is of great concern to higher educational institutions internationally (Tinto, 2006, p. 2). Discontinuation and dropout from formal tertiary qualifications has an impact economically on government and educational institutions, and psychologically also impacts on the student personally, in the form of diminished self-esteem (Bennett, 2003; Bisschoff 2005). This study therefore aims to learn, from the personal experience of students, about the reasons that led to the discontinuation of their MBA studies.

Around half a century ago, student retention was viewed mainly from a psychological viewpoint. Students' individual attributes, skills and motivation were seen as the main causes for drop-out (Tinto, 2006, p. 2). Students that did not complete their studies were seen as less able, less motivated or less willing to make use of the benefits that college graduation offers. Since the 1970's however, a large amount of research has been conducted on student retention, with the focus on the integration of the student into the academic environment, and especially into the institution (Tinto 1982, 1997, 2000, & 2015). The need to focus research on the external factors that influence student decision to depart has also more recently been raised (Leveson et al., 2013; Davies, 2000; Laing & Robinson 2003; Palmer, 2001; Brunsden, Davies, Shevlin, & Bracken 2000, MacKie 2001). Although this long history of research has brought much understanding of the student departure process, departure rates have not diminished. Much work needs to be done in putting the knowledge gained from theory into practice (Braxton & Briers, 2007; Tinto 2006 – 2007).

Theoretical context

Attrition in higher education has been widely researched and retention models have been developed in the quest to explain and develop a deeper understanding of student retention. An integrationist perspective was used in the early models to explain student retention. The first year of student orientation was seen as either to be strengthened or weakened, depending on the effectiveness of the integration efforts of the institution (Tinto, 1987 & 1993). Although the integrationist theory has a lot of merit, it also led to some criticism, of which one was the emphasis placed on institutional factors as opposed to external factors in students' decision to discontinue their studies. Davies (2000, p. 8) postulates that withdrawal is more likely to occur when there are coinciding factors from external (e.g. personal, financial or employment related), and internal (e.g. quality of support at classroom level) origin, that affects the student personally.

Criticism on these early models (Tinto, 1987, 1993) is made on both methodological and theoretical grounds (Leveson, McNeil & Joiner, 2013, p. 934). Laing and Robinson (2003, p. 176) note that methodologically, these early models placed emphasis on social processes within the educational system which are relevant only to traditional students. Non-traditional students that rely on social support outside of the institution were not considered in the early models of retention. Theoretically, the integration process of students were seen with the emphasis of the student adapting to the social system of the institution, rather than a two-way interaction process. According to the interactionist viewpoint, this was seen as too one-sided, with the focus on the broad influence of the institution on student decision-making (Palmer, 2001, p. 354). Brunsden et al., (2000, p. 310) proposes that in the light of the inherent problems in the Tinto model, there is a need to look differently at, and find new explanations for, student dropout. The perspective of the student should stand central to such investigations, taking into account the students' experience and the context within which their decisions are made. Burnsden et al., (2000, p. 310) in conclusion note that a qualitative approach such as interactionism and ethnography could provide rich and meaningful understanding and accounts of the situation of an individual. In summary, it is clear that theory may benefit from a consideration of both so-called internal and external factors affecting student attrition.

Internal factors that influence withdrawal from higher educational studies

Tinto, (2005, p. 94) argues that the key concept to student attrition lies in the ability of institutions to create an environment that is committed to student success and provide the academic and social support needed. Park and Choi (2009, p. 215) found that student satisfaction with the course and relevance thereof to learners' work, prior knowledge, and experience plays a major role in deciding to withdraw or persist with their studies. Levy (2007, p. 199) concurs that student dissatisfaction with the course has an influence on student attrition. Cortes, Mostert and Els (2014, p. 182) found that lack of information on ways of accessing information played a role in the decision to drop out, while Van den Berg and Hoffman (2005, p. 438) found that a more passive instructional style or design had a negative influence on student progress.

In her theoretical framework, Park (2007, p. 5) lists the following internal factors that may lead to drop-out; (low levels of) social and academic integration, technology/technical usability issues and a lack of motivation. Park and Choi (2009, p. 208) adapted the theoretical framework of Park (2007, p. 5) somewhat in finding that there is an interaction between internal- and external factors.

Park and Choi argue that added pressure like slow feedback from instructors (internal) on top of high workload (external), might lead to the decision to drop out.

External factors that influence withdrawal from higher educational studies

Since the early work of Tinto, (Tinto, 1987 & 1993), with emphasis on institutional integration, more recent studies shifted the focus to external factors that related to withdrawal from Higher Educational (HE) studies. The work of Tinto focused on traditional- full-time learners residing on campus, while today there are many more varied forms of being a learner.

With the introduction of e-Learning, adult learners, often employed full-time, have become a coherent part of the student body (Tyler-Smith, 2006, p. 77). The profile of adult learners with a full-time occupation (also referred to as *non-traditional* learners) implies a different set of needs and motivations to the learning process (Tyler-Smith, 2006, p. 77). Leveson, McNeil, and Joiner (2013, p. 940) found that time students spent on travelling, holding a paid job and caring for dependants had an influence on their intention to drop out of their studies. Heublein, (2014, p. 507) and Leveson et al., (2013, p. 940) found that a time-consuming job poses a problem in keeping up with academic studies.

Tyler-Smith (2006, p. 73) argues that adult learners dealing with the complexity of multimedia learning, often experience cognitive overload. Tyler-Smith (2006, p. 73) confirms that cognitive overload contributes to early drop-out from part-time studies. Park and Choi (2009, p. 216) postulates that the organisation of employment affects adult learners and found that organisational support (for studies) could have a crucial influence on student drop-out.

The influence of psychological aspects on academic performance

The academic environment of postgraduate studies present students with immense pressure. Students are pressured to pass multiple subjects assessed in time-pressured examinations and various other assessments within a limited time-frame (Kuittinen & Meriläinen, 2011, p. 42).

Postgraduate students have been found to experience significant stress levels during their studies (Sharma, Prasad, Pandey, Singh, Sodhi & Wadhwa, 2013, p. 312). Brown, Anderson-Johnson and McPherson (2016, p. 122) reports that preparation for examination, the writing of exams and workload of the programme, are among the main contributors to high level of stress experienced by graduate students. On the other hand, Tangade, Mathur, Gupta and Chaudhary (2011, p. 101)

found that the fear of failure was the strongest stressor experienced by graduate students. Stress is known to be inhibitory to academic achievement (Vaez & Laflamme, 2008, p. 183).

A review of the literature shows that research on the reasons for early drop-out from post-graduate studies with the use of quantitative methodology are ample. The majority of previous studies on reasons for drop-out from post-graduate studies, have relied on quantitative studies, mostly aiming at identifying and ranking the possible reasons for drop-out and non-completion (Yorke & Longden, 2008; Cortes et al., 2014; K., Levy, 2007; Long et al, 2006; Laing& Robinson, 2003; Leveson et al., 2013; Hublein, 2014; Palmer, 2001; Park, 2007; Park & Choi, 2009). However, there is a dearth of a deep understanding of the experience from a qualitative research approach. This study aims to add to this deeper understanding by eliciting the "sense making" of the participants as self-interpreting beings on the reasons (events, objects and people) that led to drop-out, by the use of a qualitative research design applying interpretative phenomenological analyses.

RESEARCH METHOD AND DESIGN

Research approach and method

This study is aimed at understanding the reasons for MBA drop-out at a deeper level, from the perspectives of particularly those that had gone through the experience. The study thus applied a qualitative research design, specifically by the use of an interpretive phenomenological analyses (IPA) approach. With the use of IPA the aim was to uncover the meaning and sense-making of the lived experience of the individual through a process of in-depth reflective enquiry (Smith, Flowers & Larkin, 2009). IPA is especially useful to explore in detail the participants' view (Smith, Jarman & Osborn, 1999), in order to better understand the research phenomena or perspectives from the account from the participants (Smith, Flowers & Larkin, 2009). As the focus of this study was on exploring the reasons for drop-out and non-completion of MBA students through reflecting on their lived experience that led to discontinuation, IPA was considered the most appropriate approach.

Participants and recruitment

The study sample included eight participants of which three were females and five males, aged between 27 and 54. The available population of the study consisted of 74 MBA learners that were enrolled at a South African business school between 2013 and 2015, but had dropped out of the

programme. Smith, Flowers and Larkin (2009) suggest a sample size of between 3 to 6 participants as a sufficient amount of participants for an IPA study (p. 347). Pietkiewicz and Smith (2014:9) further recommends that "there is no rule regarding how many participants should be included", but that researcher "should concentrate more on the depth, rather than breadth, of the study" (p. 9). In the current study, this depth was deemed to be evidenced in interviews with eight participants.

Table 1: Biographical information

Participant	Age	Gender	Marital status	Number of children	Year of study dropped out
Participant 1	42	Male	Single	0	First year
Participant 2	48	Female	Married	2	First year
Participant 3	54	Male	Married	3	First year
Participant 4	46	Female	Married	2	Second year
Participant 5	47	Male	Married	2	Second year
Participant 6	42	Male	Divorced	8	First year
Participant 7	30	Female	Single	0	First year
Participant 8	27	Male	Married	1	First year

Considering the comprehensive and in-depth approach about a very specific experience within a very specific group of participants (Pietkiewicz & Smith, 2014), the researcher made use of a purposive sampling technique (Smith, Flowers & Larkin, 2009) while adhering to the practicalities as suggested by Smith and Eatough (2012). These practicalities were employed by purposively recruiting participants who shared the lived experience within the study. One business school in South Africa was consulted from which permission was obtained with the approval of the relevant Institutional Ethical Review Board (IERB). A list of students that dropped out from the MBA programme, at this specific business school, between the years 2013 to 2015 was provided. Participants that adhered to the study criteria were recruited by e-mailing a letter of invitation explaining the reasons for contact and the motivation of the study. Participants that responded to the e-mail and agreed to take part in the study were contacted by the researcher and an interview was scheduled at a time convenient to the participants. Before commencement of the interview, participants signed an informed consent form ensuring the participants that all personal information will be kept anonymous and confidential and that they are free to withdraw from the

study at any point they chose. Participants were further ensured that the study results would only be used for academic purposes and that the results will be made available to them after the completion of the study.

Procedures

Data Collection

The in-depth reflective enquiry of participants' lived experience that led to the discontinuation of the MBA programme were gained through semi-structured, in-depth, one-on-one interviews. The interviews lasted between 35 and 65 minutes. All interviews were digitally voice recorded with the prior consent of the participants, and participants were re-assured about their anonymity and confidentiality before the interview commenced. The interview schedule was guided by the central question "What were the reasons that led to you discontinuing your MBA studies?" Four probes were included to account for the participants' individual experiences regarding a.) the MBA programme; b.) work-related aspects; c.) personal aspects; and d.) their original motivation for enrolling for an MBA degree. During the interviews the researcher, as suggested by Smith, Flowers and Larkin (2009), created a reflective environment in which the participants could freely reflect and talk about their experiences. During data collection trustworthiness was enhanced by utilising techniques such as the taking of field notes and memo-ing (referential adequacy), purposive sampling of participants and data saturation (transferability) and continuous peer-debriefing (dependability).

Data analysis

All interviews were verbatim transcribed by an independent transcriber after each interview. All transcripts were verified by both the researcher and the co-coder to confirm both the accuracy and truthful reflection of the transcripts before commencing with data analysis. This process also assisted the researcher in a deeper immersion with the data before analyses started contributing to both the credibility and transferability of the data. This process was employed after each interview in adhering to the idiographic commitment of IPA's case-to-case analysis (Smith, Flowers & Larkin, 2009). Continues field notes were taken to enhance the confirmability of the process and to 'bracket' the researcher from any preconceptions regarding the participants' experiences. Both the researcher and co-coder met after each interview, in the form of a peer-debriefing session, with the aim of sharing and deliberating initial thoughts, insights and interpretive comments through reflecting on both the recording, transcript and field notes.

The case-by-case analyses process as suggested by Smith, Flowers and Larkin, (2009) was followed. Analysis commenced with a close examination of each interview as interviews were completed, the initial step whereby the researcher immersed herself in the transcript of a single case. In addition to this, a co-coder, experienced in IPA research analysed the transcripts independently, followed by a peer-debriefing meeting after each case analysed. The approach was followed throughout the entire process with the assistance of Atlas.ti 8 (2019) to add to the manageability, dependability, confirmability and referential adequacy of the analysis process. The following is a step-by-step account of how the process was employed in this study.

Each case was read, observations and comments were noted through the memo-ing and comments function in Atlas.ti and linked to individual transcripts. This was followed by developing emergent themes by selecting 'chunks' of data relating (linked) to the observational 'notes' of every case, through the coding function of Atlas.ti. At this stage, the emergent themes were clustered to determine, through reflective engagement, how the data was related. This was done through the use of the grouping and networking functions of Atlas.ti. At this point the researcher and co-coder moved to the next case where the transcript was approached afresh through 'bracketing" the previous case for future reference. All eight of the participants' transcripts were approached and analysed in this manner until all eight the cases were analysed.

All eight cases were merged, in a single Altas.ti project in order for the researcher and the co-coder to look for patterns across the eight different cases and to note the idiosyncratic differences. Atlas.ti is very suited for this process as it provides an electronic stepwise account of the process enhancing the credibility, transferability and dependability of the data. The merged analysis was mainly done through the networking functions of Atlas.ti. At this point, interpretation moved to a deeper level by reviewing themes across the entire data set while highlighting, including and linking the participants' metaphors and temporal referents which further gave meaning of their lived experiences. The final step of this process was to integrate existing theory and concepts to make further sense of the data. This was done through the integration of literature in the findings and discussion section below.

Ethical Considerations

One business school in South Africa was consulted from which permission was obtained with the approval of the relevant Institutional Ethical Review Board (IERB). The Faculty Research Meeting assigned the project number EMS14/03/20-02/02 to this study. This acceptance deems the

proposed research as being of minimal risk. Ethical considerations of anonymity, confidentiality and informed consent were taken into account throughout this study. The research proposal for this study was accepted and permission granted to execute the study.

FINDINGS AND DISCUSSION

From the analysis of the data, three main themes emerged; *Internal factors, External factors, and Interaction between internal and external factors.* Participants described their overall experience that led to their decision to drop out of the MBA programme as *coinciding circumstances* engendered by these identified internal factors, external factors and the interactions between these internal and external factors. Interestingly, participants also expressed *psychological consequences* experienced as a result of not completing their studies. Before discussing the findings in depth, a brief overall contextualisation of research participants' and their expressed experience follows.

The overall contextualisation of research participants' experience

For the purpose of putting forward the voice and presence of the research participants, a brief discussion follows.

All eight participants were part-time MBA students, with a full-time job and various family responsibilities. Six of the eight participants were older than 42 years. Seven of the eight participants held senior work positions with high responsibility, which inevitably brought forth working after hours and/or overtime. The nature of the work environment necessitated 4 participants to be available after hours to be informed about events and to take the necessary action when needed. The sample included a married couple that studied together, which from their perspectives brought interesting and complex dynamics to the forefront. It must be noted that the latter participants were interviewed individually.

During the interviews, participants went through the process of sense-making and self-interpretation of their lived experience of their journey from taking the decision to enrol as departure point, up to taking the decision to drop out. Most participants either started the interview off by relating a summary of the main reason/s for their drop-out, or related this summary at the end of the interview. This in almost all the cases (n=7) was expressed as "*coinciding circumstances".*

Participants 1, 4, 5 started the interview off by relating that they experienced the interplay of the challenges with simultaneous demands; having a demanding full-time occupation; caring and supporting their family - and to be added onto that; to be enrolled in a very demanding part-time study, being the main reasons from dropping out of the programme. Moving to a new position, or starting a new job, was the main reasons participants 2, 3, 7 and 8 experienced as the main reason for dropping out of the programme.

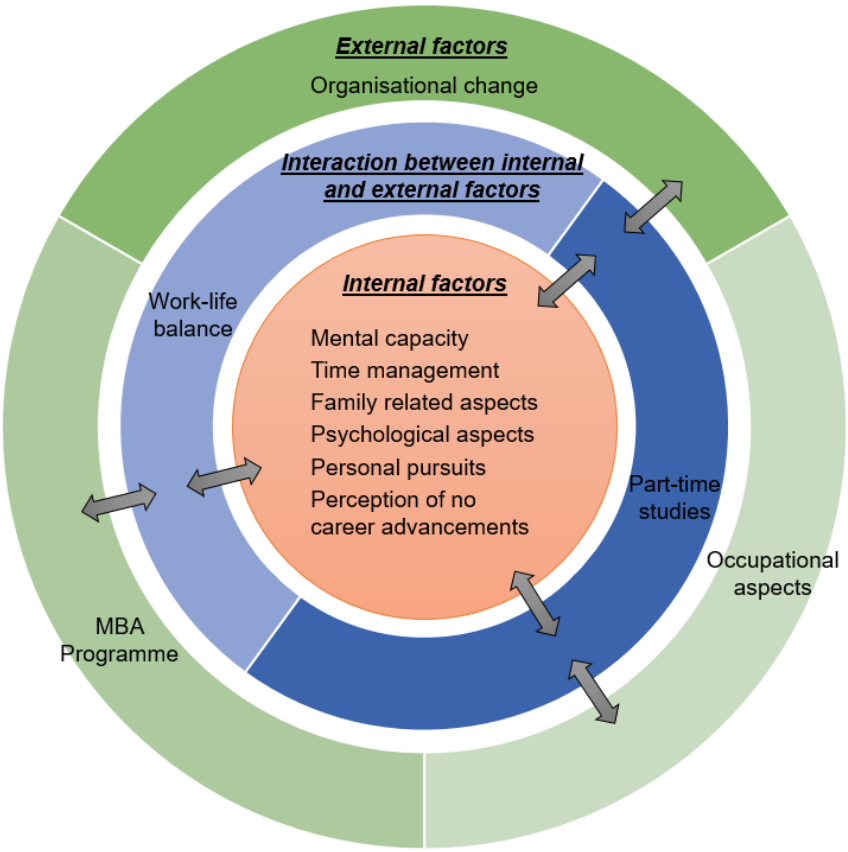
Seven of the eight participants discontinued their studies due to the interplay of these coinciding factors as described above. Contrastingly, participant 6 related that the main reason for discontinuation was related to the MBA curriculum. This participant experienced that the curriculum slanted too much towards financially-orientated modules, while his interest lies towards people-orientated subjects. The reasons experienced by participants for dropping out of the programme will be discussed in detail in the next section.

Reasons for drop-out and non-completion as voiced by participants

In the discussion that follows, we will approach it from the perspective of participants' overall lived experience and sense-making of reasons that led to drop-out from the MBA programme. The factors that contributed to drop-out and came to light from participants' experience, was categorised under the themes *internal factors, external factors* and the *interaction between internal-* and *external factors.* These coinciding circumstances gives the reader a global view on participants' experiences. It will not be treated as a theme per se, but rather as a viewpoint from which the three higher order themes can be interpreted and understood. The three higher order themes (figure 1) will be interpretively discussed through firstly discussing the internal and external factors and then by discussing the interplay of the internal and external factors as experienced and expressed by the participants. The discussion will be concluded by discussing the psychological consequences which though will not be treated as a higher order theme. The reason for this is that this finding does not bring forth reasons for drop-out or non-completion nor does it address the research question. It does however highlight an interesting finding. Participants shared that they still carry psychological consequences which still burdens them 4 – 6 years after drop-out.

In Figure 1 below, the three higher order themes with supporting sub-themes are portrayed.

Figure 1: Higher order- and sub-themes



Internal factors

The early models on student retention referred to internal factors as factors internal to the institution (Tinto, 1987 & 1993). Tinto, (2005, p. 94) argued that the key concept to student attrition was situated in the ability of institutions to support students by providing an environment of academic and social support. It should be noted that participants of this study had a different view of *internal factors.* When referring to *internal factors* participants also included aspects internal to themselves as a person.

Under the theme *internal factors*, participants referred to the following aspects; mental capacity, time management, work pressure, family related aspects, psychological aspects, personal pursuits, change in career direction and perception of no career advancement. The above sub-themes will be discussed in the next section.

Mental capacity

Participants experienced that their mental capacity was severely challenged by their part-time study. Having the mental capacity to encapsulate both studying part-time and work pressure after

hours, proved very challenging and became overwhelming in some cases. The term "cognitive overload" is commonly used in literature to refer to what participants described as *mental capacity.* Mayer and Moremo (2003, p. 45) explains that "cognitive overload" occurs when the total intended processing exceeds the learner's cognitive capacity. The responses of two participants describes the mental capacity needed for the MBA well:

"…it requires a lot of thinking!... Yeah, it requires a lot of critical thinking. And, then you know… you must be mentally and emotionally prepared for the MBA" (P8)

The way in which one participant describes *mental capacity* is quite unique:

"I just did not have enough headspace to engage with the study material". (P3)

Supportive to the experience of these participants, Tyler-Smith (2006, p. 73) found that students often experience cognitive overload and suggests that it is a likely contributor to drop-out rates, which further supports the experiences of participants.

Time management

Time is an inaccessible factor, the term "*time management*" is thus actually misleading. What can be influenced, is the way a person deals with time (Claessens, Van Eerde, Rutte & Roe, 2007 p. 256). Elaim and Aharon (2003, p. 305) views time management as the way time is monitored and controlled. Participants were clearly challenged with what they called *time management*. Participants referred to time management as the struggle to find enough time to simultaneously meet the demands of their part-time study, adhere to the work demands while at the same time provide in the needs of their family.

"And definitely you're very tired after a day's work. There is not really time, it is your, you're really tired…just don't want to think. You don't want to…do anything else …. So you I think you must be mentally prepared to just make the time and just go and sit at your books….and and do it." (P2).

"It was not an easy start, your focus shifted all the time. During the study school I typically attended class, then rush back to office at breaks, and then back to class again." (P7).

In the sharing of participants' experiences, it was clear that they perceived this challenge of *time management* as a stressful situation. In confirmation to participants' experience, Misra and McKean (2000, p. 41) found that time management was a predictor of academic stress. The importance of students' time management skills was emphasized by Goldfince and Hughes (2007, p. 259), as well as Ravoi (2003, p. 10). These authors identified time management skills as essential to academic success.

Family related aspects

Participants had a struggle to find balance between their occupation, part-time studies and then still finding capacity for caring and supporting a family. The children of two participants were still relatively young and involved in recreational activities that required time and support from their parents. Participant 5 described the experienced circumstances that was the main reason of discontinuation as "*the phase of our lives*". With this phrase the participant referred to being in their late forties, having young children while both himself and his wife, (studying together) occupied senior positions, while also enrolled for part-time study. Being a married couple studying together put enormous strain on family life in general. He reflects:

> *"It was really, I think largely uhm… if I have to give a percentage between workload and between personal circumstances, the personal circumstances contributed 80% to making the decision to discontinue"* (P5).

Participant 8 got married in the year he enrolled for the MBA. This participant in reflection shares that he took on too many things at the same year to manage. This included changing jobs, enrolling for an MBA, getting married, and being involved in recreational activities after hours, which proved too much to handle. In concurrence with the experience of participants, Davies (2000, p. 2) concludes that personal reasons, including change in family and work circumstances contributed most to student withdrawal.

Psychological aspects

The struggle to find balance between the work, family and part-time studies as described above, also resulted in psychological effects on participants while studying. Participant 4 experienced feelings of guilt towards family for not spending enough time with them, or not being able to support children in their sporting activities. In the case of Participant 4, these psychological effects had a significant effect on the decision to drop out from the MBA programme. P4 reflects:

"it just became too much… I mean when I worked on the MBA I felt guilty that I am not working on my part of my job… and then comes your household… you feel guilty about that… and then comes your home and family… and we are a close family… you must still see that you get together on weekends…it was just too much… and with that huge guilt feelings…" (P4).

In support of these experiences of participants, Tyler-Smith (2006, p. 73) found that student attrition are influenced by sociological, psychological and cognitive factors.

Personal pursuits

Participants where challenged to find holistic health and balance with what they experienced when commencing a part-time study in combination with a full-time occupation, and family life. After meeting all the needs of these responsibilities, no time was left for their own personal pursuits. Participant 8 experienced that he could not fit in following his own personal interests and passions and had to give up many personally meaningful activities such as coaching choirs. Participant 4 experienced that her personal pursuit to complete the MBA programme was in conflict with her occupational responsibility. Eventually the battle to find balance between work and personal pursuits led to the discontinuation of this participant.

Perception of no career advancement

The term *career advancement* refers to the motive participants had with enrolment onto the MBA programme to progress in their career. *Career advancement* was part of the enrolment motive of all eight participants at the commencement of their studies. The finding of Buchanan, Kim and Basham (2012, p. 282) that pursuers of business degrees were strongly motivated by professional advancement and career progress supports this motive expressed by participants.

Interestingly, this same enrolment motive of *career advancement* with commencement of study, proved to become a motive in the decision to drop out of the programme for six participants. The lived experience of these participants was that, on reflecting back after four to six years after drop-out, their perception was that it would have made no difference in their career advancement if they had an MBA qualification. This perception was based on the fact that colleagues that acquired a MBA degree did not make any career advancement at the same institution of employment.

External factors

Although the integrationist theory of Tinto (1987, 1993) has a lot of merit, it also led to some criticism, which one was the emphasis placed on institutional factors, seen as internal factors as opposed to external factors in students' decision to discontinue their studies. Davies (2000, p.8) referred to external factors as personal, financial or employment related aspects, and to internal factors as quality of support at classroom level, that affects the student personally.

The aspects that participants experienced as external factors were: i) Organisational Change, which resulted in change in structure, change in position and change in role ii) Occupational aspects with the sub-themes work pressure and work environment and iii) The MBA programme. These sub-themes will be discussed in the next section.

Organisational change

Day, Crown and Ivany (2017, p. 4) debates that with the rapid organisational change experienced, the issue of employee health and well-being has become prominent. Day et al. (2017, p.10) concludes that loss of job control and lack of supervisor support as result of organisational change are related to employee burnout. Seven participants experienced organisational change during their MBA studies which had a significant effect upon them. The most prominent impact participants experience as result of organisation change, were change in organisational structure, change in position and change in role. The change participants experienced are discussed in the next section.

Change in organisational structure

Seven of the participants experienced change in organisational structure during their studies while one participant experienced insufficient organisational structure. These changes had an impact on participants at different levels of functioning. The most prominent experiences of participants with regard to experiencing change in organisational structure are shared to voice participants' experience. Participant 7 suffered from burnout a result of the change in organisational structure and was consequently on sick-leave for three months. This participant experienced lack of supervisor support and added workload and responsibility.

Participant 2 experienced a lack of organisational structure which put pressure on her workload and responsibility, which became just too much of a challenge in combination with part-time studies.

"We're a small company, and a very uhm, flat management structure. We have just me as financial manager, and the operational manager, so we're just the two managers … …you can delegate more responsibilities to them, but if you don't have the…the...uhm… relevant qualified people underneath you, you must tell everybody what to do." (P2)

Participant 4 went through three restructuring processes during part-time study which in itself had a huge impact upon her workload and responsibility, she shares:

"we had different interventions in that time.. we went through one restructuring.. and then a second… we went through a ***third*** *restructuring!... but yes... all these things was just too confusing to bring everything together"* (P4)

These experiences shared above clearly supports the findings of Day et al., (2017, p.10) in finding organisational change to be related to burnout. Four participants were clearly affected emotionally in relaying their experiences during interviews and experienced stress as result of organisational change. The experience of one participant was so severe that it actually led to burnout.

Change in position

As a result of organisational change, change in position was experienced by two participants. These two participants experienced that the change in position brought forth added responsibility and work pressure. In these cases, change in position played a huge role in the decision to drop out. The change in position of participant 3 was the main reason for discontinuation of his studies, and reflected:

"the outcomes of the study, really fitted into at that stage with what I needed and what I wanted to do. But the big problem was that I was moved into a new position in the beginning of that year" …. my head was just filled with a lot of stuff to deal with the transformation project so I just could not find the headspace to continue so I dropped out in June. That was the main reason" (P3).

Literature confirms that change in position or change in jobs are associated with psychological strain. Day et al. (2017, p.10) shows that loss of job control, including change in job, is related to employee burnout.

Change in role

Change in occupational role interlinks with change in position discussed above. The role of three participants changed drastically which brought forth added responsibility and work pressure. In these cases, change in role played strengthened the decision to drop out. Participant 3 moved from a management position to a research position which was a drastic change in role and had influence on his motivation to continue with the MBA programme. The motivation to enrol for the MBA programme for Participant 3, was to gain managerial skills; with this change in role to a research position, this was no longer relevant. Participant 8 moved from the role of a teacher into the role of a financial administrator. The role of participant 7 also changed drastically as the result of her manager leaving the company. With the open vacancy, this participant had to act in a management position added onto her usual responsibilities. These participants were put under pressure and this contributed significantly in their decision to discontinue their studies.

Occupational circumstances

As mentioned before, all participants (*n=8*) held a full-time occupation while enrolled on the part-time MBA programme. In referring to occupational circumstances, participants described all the workplace circumstances that had an impact on them personally and on their part-time study. Hublein (2014, p. 509) concurs that holding an occupation during studies takes up a lot of time and therefore influences academic success.

Work pressure

Russel, O'Connell and McGinnity (2009, p. 83) defines work pressure as "the intensity of work demands, both physical and mental, experienced by workers, and the degree of work effort demanded in employment". Hublein (2014, p. 509) found that holding an occupation whilst studying puts tremendous pressure on students because of taking up so much time which could eventually lead to drop-out. This finding of Hublein is in line with the lived experience of participants of work pressure in combination with part-time studies just getting too much to handle. Shared responses from participants amplifies the work pressure experienced during their studies:

And uhm…a manager's work is not really…uhm 8 – 5 work. You always have responsibilities after hours, and you have the uhm, worries and uhm…things that don't go well at office… your phone will be on 24/7" (P2).

Work environment

Chandrasekar (2011, p. 1) postulates that the workplace environment has both positive and negative impact on the morale, productivity and engagement of employees. Different aspects regarding *work environment* was mentioned by participants and proved to have a significant impact on participants with regard to their part-time studies. Four participants mentioned that the organisational climate and culture of the work environment had an influence on their study experience and also affected them emotionally. Participants experienced the organisational climate as negative and experienced a lack of support from colleagues and felt that they were not valued.

The biggest reason for discontinuing was that there was no support at work… it did not improve my work pressure either… my colleagues looked down upon me... (P1).

One participant also experienced that her authority as a manager was undermined by one of her older colleagues. Further, the leadership style of the work environment was experienced as negative and caused feelings of not being recognised, and influenced her effectiveness as a manager. The dynamics of the work environment and culture had a negative influence on the emotional well-being of this participant. A recurring theme that emerged from participants' experience was a lack of support from the workplace. Four participants experienced that a lack of support from the workplace as one of the main factors that led to their decision to drop out.

"the biggest reason was that there were no support at work" (P1).

"*the work does not care for me. I can say with conviction that there was no support from work". (Participant 7)*

"but I think the big reason for me was the little support.. there was no helping hand or more tolerance in terms of time or in terms of the importance of my studies to myself " (P4).

Park and Choi (2009, p. 216) proposes that organisational support could have a crucial influence on student drop-out, which echoes the experience of these four participants. The shared experiences of participants above portrays that occupational aspects had a use impact on all participants and influenced their decision to drop out of the programme.

The MBA programme

The MBA programme of study includes six modules per year, divided into three subjects per semester. The workload of each module is comprehensive including multiple assessments in the form of individual- and group assignments, class tests and examinations. Students attended classes either on Saturday mornings or Monday evenings. A comprehensive, time consuming Strategic company project forms part of the curriculum as well as a mini-dissertation which students commence within their first year of study. Participants experienced the workload of the MBA programme as very challenging. The additional pressure the part-time MBA put on participants with a full-time occupation and family life were experienced as overwhelming. Participants shared their experiences as follows:

"on one weekend you had to hand in 4 assignments! ... it was as if the workload just got too much at one shot ... you are still finding your feet, then they come and prod you for a title for your dissertation…" (P5)

"The first semester was fine really, it wasn't that bad.. . second semester ... nee dit het nie gewerk nie (no it did not work)! , and it was demanding mondules!" (P8)

Interaction between internal and external factors

Participants experienced that there was an interaction between internal and external factors which indicates that we should not look at these factors in isolation, but rather as an integration of aspects that had an impact on participants' *work-life balance* and attempted *part-time studies.*

Work-life balance

Finding work-life balance was a real challenge to all participants. Participants experienced that the demand of part-time studies while holding a full-time occupation, that spilled over into working after hours while enrolled in a demanding part-time study, put pressure on them. Added onto this, participants had to fulfil in the needs of their family. To then still try and pursue personal interests like music, sport and other recreational activities simultaneously proved to be impossible. These experiences are supported by the statements of two participants, which reads as follows:

"It was just too many circumstances, too many emotional things… just too many things… private things… the circumstances at home … then I have this pressure at work … at that stage it was just too much" (P1)

"the pressure was just too enormous to handle…. I just could not find the balance between what the work expected of me and what I wanted for myself" (P4).

To further support the experiences of participants regarding *work-life balance,* York and Longden (2008, p. 27) found that lack of balance between work, study and life was linked to withdrawal decisions.

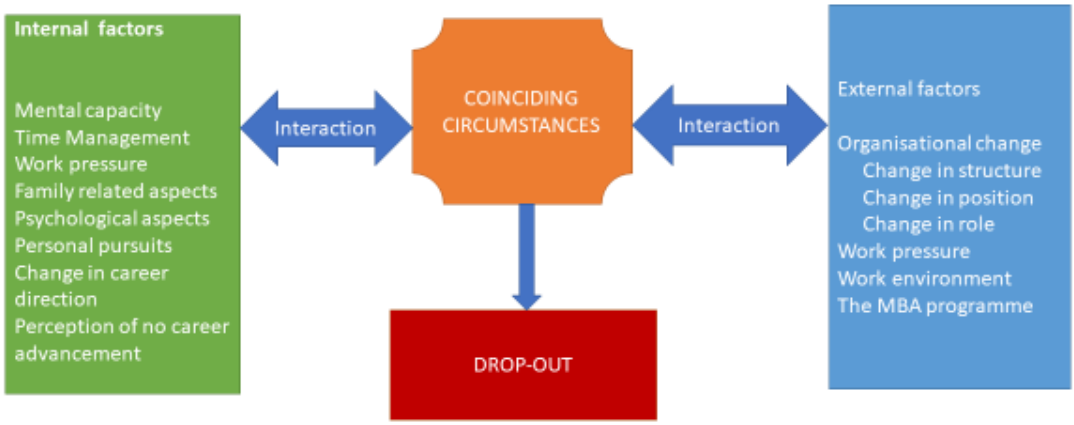
Part-time studies

Participants were all *(n=8)* enrolled in demanding part-time studies. Participants experienced that this added pressure of part-time studies had a use impact on them which is added pressure on keeping a healthy work-life balance. Participants further experienced that their mental capacity were severely challenged by their part-time study. Having the mental capacity for both studying part-time and work pressure after hours, proved very challenging and became overwhelming in some cases. The findings of Park (2007, p. 3) in support emphasizes that part-time learners with full-time occupations has multiple roles resulting in time conflict between work and studies which contributes to drop-out. Davies (2000, p. 8) concurs that students perceived personal problems, and conflict between job and studies as the prevalent causes of withdrawal from part-time studies.

Coinciding circumstances

As explained at the start of the discussion of the findings, participants experienced that the interaction between internal- and external factors, which they referred to as *coinciding circumstances* had a significant influence on the decision to drop out from the MBA programme. Figure 2 below portrays the dynamics of this interaction.

Figure 2: Coinciding circumstances



The lived experience of participants showed that what participants described as *coinciding circumstances* as result of the interplay of internal- and external factors was the primary reason that led to the decision to drop-out from the MBA programme. This is in line with the finding of Park (2007, p. 5) in confirming that there is an interaction between internal- and external factors which leads to drop-out. The findings of Park (2007, p. 3) emphasizes that part-time learners with full-time occupations has multiple roles resulting in time conflict between work and studies which contributes to drop-out. Davies (2000, p. 8) concurs that students perceived personal problems, and conflict between job and studies to be the most prevalent causes of withdrawal from part-time studies.

The next section will be devoted to the psychological effects that participants experienced as a result of drop-out from the MBA programme.

Psychological consequences as result of drop-out

In the process of sense-making of their lived experience of non-completion of their MBA studies, participants shared that they still carry psychological load after 4 – 6 years after drop-out. Most participants emphasised that the decision to drop out was a very hard and difficult decision to make.

Participants shared feelings of remorse, guilt, hopelessness, inferiority, self-blame, low self-esteem and disillusionment as result of not completing their studies. One participant reflects that the fact that she did not complete her studies, haunts her as the one thing that she did not complete

in her life, and as a result, she still does not have closure on the event. Three participants were so deeply affected that they became teary during the interview. The psychological impact experienced by participants became clear in their accounts of this lived experience. Participant 7 shared:

"but it has an influence on your self-image and how you see things, especially if it is the first thing you have not completed…you can do damage to yourself… because I am used to finishing everything I do… I come from a home were academics are important… so it is one of those things that stays at the back of your mind… it was quite a disappointment… they were so excited for me to study again… there is a bit of resentment as well… for me personally it is that one thing that was a failure…the thing you did not complete" (P7)

"… and I feel guilty towards the guys that did complete… why could you not do it… you measure yourself to others all the time… you start doubting yourself… why could you not do it… you blame yourself… I felt inferior… I landed up with a psychologist" (P4).

The psychological impact experienced by learners dropping out from post-graduate studies, should not be underestimated. Bennett, (2003, p.139) concurs that discontinuation and drop-out from formal tertiary studies psychologically impacts student personality in the form of diminished self-esteem.

CONCLUSION

The focus of this study was to explore the reasons for drop-out and non-completion of MBA students though reflecting on their lived experience that led to drop-out and non-completion. The current body of knowledge on drop-out from management studies are mostly based on studies with a quantitative research design. This interpretive phenomenological study provides a deep understanding of the reasons of student drop-out and non-completion.

The main finding of this study was that the interaction between internal- and external aspects combining into what participants described as *coinciding circumstances* were the primary reason for dropping out of the MBA programme.

The MBA programme investigated is a part-time programme and all participants held a full-time occupation. The combination of part-time studies, occupational aspects and personal aspects, (that were described as internal- and external factors in the study), proved too much for participants to

absorb, and ultimately led to drop out from the programme. Davies (2000, p.8) concurringly postulates that withdrawal is more likely to occur when there are coinciding factors from external (e.g. personal, financial or employment related), and internal (e.g. quality of support at classroom level) origin, that impacts on the student personally. Examples of internal factors illustrated in this investigation include mental capacity, time management, work pressure, family related aspects, psychological aspects, personal pursuits, change in career direction and perception of no career advancement. External factors that emerged from the interviews are for example organisational change, occupational aspects and the MBA programme.

As emphasised by Bennet (2003, p. 139) on the psychological impact on personality in the form of diminished self-esteem as result of dropping out from post-graduate studies should not be underestimated. Participants of this study suffered severe psychological consequences in the form of diminished self-esteem, feelings of guilt, inferiority, remorse and disillusionment.

LIMITATIONS AND RECOMMENDATIONS

The study is limited to one business school in South Africa and results can thus not be generalised. It should be noted though, that the business school of study is internationally accredited and that the part-time MBA offered and similar to part-time MBA programmes internationally. Our findings are therefore meaningful in the understanding of reasons for MBA drop-out at many business schools.

Note should be taken of the findings of this study concerning internal- and external factors that had an influence on drop-out. As mentioned earlier, examples of internal factors illustrated in this investigation include mental capacity, time management, work pressure, family related aspects, psychological aspects, personal pursuits, change in career direction and perception of no career advancement. External factors that emerged from the interviews are for example organisational change, occupational aspects and the MBA programme. More qualitative research on these specific factors mentioned above would add value to the existing body of knowledge on drop-out and non-completion of post-graduate studies.

REFERENCES

ATLAS.ti (2019) Scientific Software Development GmbH, Berlin. https://atlasti.com/legal-info/ Accessed 21 July 2019.

Bennett, R. (2003) Determinants of undergraduate student drop out rates in a university business studies department. *Journal of Further and Higher Education*, *27*(2), 123-141

Bisschoff, C. A. (2005). A preliminary model to identify low-risk MBA applicants. *SA Journal of Economic and Management Sciences*, *8*(3), 300–310.

Brown, K., Anderson-Johnson, P., & McPherson, N. A. (2016). Academic-related stress among graduate students in nursing in a Jamaican school of nursing. *Nurse Education in Practice, 20*, 117-124.

Brunsden, V., Davies, M., Shevlin, M., & Bracken, M. (2000). Why do HE students drop out? A test of Tinto's model. *Journal of Further and Higher Education*, *24*(3), 301–310.

Buchanan, R.F., Kim, K-H., & Basham, R. (2007). Career orientations of business master's students as compared to social work students: Further inquiry into the value of graduate education. *Career Development International, 12*(3), 282-303.

Chandrasekar, K. (2011) Workplace environment and its impact on Organisational performance in public sector Organisations. International Journal of Enterprise Computing and Business Systems, 1(1), 1-19. http://www.ijecbs.com Accessed 21 July 2019.

Claessens, B. J. C., Van Eerde, W., Rutte, C. G., & Roe, R. A. (2007). A review of the time management literature. *Personnel Review, 36*(2), 255-275.

Cortes, K., Mostert, K., & Els, C. (2014). Examining significant predictors of students' intention to drop out. *Journal of Psychology in Africa*, *24*()2, 179-185,

Davies, P. (2000). Student retention in further education: A problem of quality or of student

finance? An updated version of the paper presented to the British Educational Research Association Annual Conference in September 1999 (pp. 1-14). London: Further Education Development Agency. http://dera.ioe.ac.uk/id/eprint/2438 Accessed: 21 July 2019.

Day, A., Crown, S. N., & Ivany, M. (2017). Organisational change and employee burnout: The moderating effects of support and job control. *Safety Science, 100*, 4–12.

Eilam, B., & Aharon, I. (2003). Students' planning in the process of self-regulated learning. *Contemporary Educational Psychology*, *28*(3), 304-34.

Goldfinch, J., & Hughes, M. (2007). Skills, learning styles and success of first-year undergraduates. *Active learning in Higher education, 8*(3), 259–273.

Heublein, U. (2014). Student drop-out from German higher education institutions. *European Journal of Education, 49*(4), 497-513.

Kuittinen, M., & Meriläinen, M. (2011). The effect of study-related burnout on student perceptions. *Journal of International Education in Business, (4)*1, 42-62.

Laing, C., & Robinson, A. (2003). The withdrawal of non-traditional students: Developing an explanatory model. *Journal of Further and Higher Education*, *27*(2), 175–185.

Leveson, L., McNeil, N., & Joiner, T. (2013). Persist or withdraw: The importance of external factors in students' departure intentions. *Higher Education Research & Development*, *32*(6), 932-945.

Levy, Y. (2007). Comparing dropouts and persistence in e-learning courses. *Computers & Education*, *48*(2), 185-204.

MacKie, S. E. (2001). Jumping the hurdles – undergraduate student withdrawal behaviour. *Innovations in Education and Teaching International*, *38*(3), 265-276.

Misra, R., & McKean, M. (2001). College students' academic stress and its relation to their axiety, time management, and leisure satisfaction. *American Journal of Health Studies, 16*(1), 41-51.

Mayer, R. E., & Moreno, R. (2003). Nine ways to reduce cognitive load. E*ducational Psychologist, 38*(1), 43-52.

Palmer, J. (2001). Student dropout: A case study in new managerialist policy. *Journal of Further and Higher Education*, *25*(3), 349–357.

Park, J. (2007). Factors related to learner dropout in online learning. In F. M. Nafukho, T. H. Chermack, & C. M. Graham. (Eds.) *Proceedings of the 2007 Academy of Human Resource Development Annual Conference* (pp. 25-1-25-8), Indianapolis, Feb 28- Mar 4. . Indianapolis, IN: AHRD. https://files.eric.ed.gov/fulltext/ED504556.pdf Accessed 21 July 2019.

Park, J.-H., & Choi, H. J. (2009). Factors influencing adult learners' decision to drop out or persist in online learning. *Educational Technology & Society*, *12*(4), 207-217.

Pietkiewicz, I., & Smith, J. A. (2014). A practical guide to using interpretative phenomenological analysis in qualitative research psychology. *Psychological journal*, *20*(1), 7-14.

Ravoi, A. P. (2003). In search of higher persistence rates in distance education online programs. *Internet and Higher Education*, *6*(1), 1–16.

Russell, H., O'Connell, P. J., & McGinnity, F. (2009). The impact of flexible working arrangements on work–life conflict and work pressure in Ireland. *Gender, Work and Organization, 16*(1), 73-97.

Sharma, B., Prasad, S., Pandey, R., Singh, J., Sodhi, K. S., & Wadhwa, D. (2013). Evaluation of stress among post-graduate medical and dental students: A pilot study. *Delhi Psychiatry Journal, 16*(2), 312-316.

Smith, J. A., Flowers, P., & Larkin, M. (2009) *Interpretative phenomenological analysis: theory, method and research*. London: Sage.

Smith, J. A., & Eatough, V. (2012). Interpretative phenomenological analysis. In C. Willig, & Stainton-Rogers, W. (Eds.). *The SAGE handbook of qualitative research in psychology* (pp. 179-194). (2nd.ed.). London: Sage.

Tangade, P. S., Mathur, A., Gupta, R., & Chaudhary, S. (2011). Assessment of stress level among dental school students: An Indian outlook. *Dental Research Journal (Isfahan), 8*(2), 95–101.

Tinto, V. (1982). Limits of theory and practice in student attrition. Journal of Higher Education, 53, 687-700.

Tinto, V. (1993). Leaving college: Rethinking the causes and cures of student attrition (2nd ed.). Chicago, IL: University of Chicago Press.

Tyler-Smith, K. (2006). Early attrition among first time elearners: A review of factors that contribute to drop-out, withdrawal and non-completion rates of adult learners undertaking elearning programmes. *MERLOT Journal of Online Learning and Teaching, 2*(2), 73 – 85.

Van den Berg, M. N., & Hofman, W. H. A. (2005). Student success in university education: A multi-measurement study of the impact of student and faculty factors on study progress. *Higher Education, 50*(3), 413–446.

Vaez, M., & Laflamme, L. (2008). Experienced stress, psychological symptoms, self-rated health and academic achievement: A longitudinal study of Swedish university students. *Social Behavior and Personality*, *36*(2), 183-196.

Yorke, M., & Longden, B. (2008). The first-year experience of higher education in the UK: Final report. UK: HEA. http://www.heacademy.ac.uk/assets/ York/documents/resources/publications/FYEFinalReport.pdf Accessed 7 November 2010.

CHAPTER 6
CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

The article route of composition was followed for the structure of this thesis. The composition of the thesis includes four research articles with an introductory chapter (Chapter 1) and a concluding chapter (Chapter 6). The focus of the research articles, were to i) specifically predict the success and/or failure of first year MBA candidates with the use of cognitive ability (verbal and non-verbal) instruments; ii) to gain a deeper understanding of factors that contribute to the completion and throughput rates of a MBA programme; iii) to determine if managerial competencies are related to subsequent MBA academic performance; and iv) Gaining a deep understanding for the reasons of MBA drop-out and non-completion.

Recommendations were made after each article and managerial implications were put forward. The insight the study brought upon understanding the role and predictive value of cognitive ability, personality and managerial competency upon MBA academic performance makes a significant contribution to the field of study. The study further contributes by gaining deep insight into, and understanding the demands of the corporate market regarding managerial competencies of MBA graduates and what the MBA curriculum should include.

A short summary of the four articles included in the theses follows:

6.2 Article 1

In this article the best predictors of successful completion of MBA first year students were determined. Cognitive ability and selection criteria were tested for reliability as predictors of MBA first year success. Students enrolled between the years 2006 and 2013 at a South African business school formed the population of N=777 of the study. A longitudinal quantitative research design was followed. Numerical cognitive ability was found to be the best predictor of MBA first year success, defined here as the successful completion of all first year MBA modules within the first academic year. Type of undergraduate qualification was found to influence academic performance. It was found that language of delivery was related to MBA I success and that younger students out-performed their older fellow students.

6.3 Article 2

The purpose of this article was to determine the factors contributing to the successful completion and throughput rates of a MBA programme. A longitudinal quantitative research design was followed. The population of the study included 472 (N=472) students enrolled between the years 2006 and 2013 at a particular South African business school. A databank of cognitive ability

assessment and biographical detail gathered during the selection process was available to the study. Numerical- and verbal cognitive ability were compared to timeous MBA completion results Logistic regression analysis was applied to determine the relation of the cognitive and verbal ability measures, former education, gender, age and language, to the successful completion of the MBA degree. Results indicated that cognitive ability is related to completion of the MBA degree. The study further showed that English language proficiency is related to academic success. Younger students performed better, compared to older students, indicating that age is related to MBA completion. Former education proved to have no relation to MBA completion.

6.4 Article 3

The focus/aim of this study was to determine the role of managerial competency in the prediction of MBA academic performance. A quantitative research design was followed using data from a South African business school, enrolled between the years 2008 to 2013. The study population consisted of a total of N=203 of students that started their study programme in 2010, and completed the MBA programme either in 2012 or 2013, respectively (3 – 4 years). Competency assessments gathered within the selection process was used and compared to timeous MBA completion. Logistic regression analysis was applied to determine the significance and the unique contributions of each of the predictors (biographical variables and eight managerial competencies) to academic success. The managerial competency that was best related to MBA academic performance was Creating and conceptualising followed by Supporting and co-operating. Results further indicated that the age of participants was related to academic success in that younger students were more representative in successfully completing the MBA within the allotted timeframe than older students were.

6.5 Article 4

The focus of this study was to explore the reasons for drop-out and non-completion of MBA students though reflecting on their lived experience that led to discontinuation of their academic studies. The study followed a qualitative approach, specifically that of interpretive phenomenological analyses (IPA). The sample consists of 8 learners that dropped out from the MBA programme of a South African business school between the years 2013 and 2015. The study sample consisted of eight participants of which three were females and five males, aged between 27 and 54 years old. The main finding of this study was that the interplay of simultaneous events, challenges and demands that participants experienced during their part-time studies, described as coinciding circumstances in this study, was the most prominent reason for student drop-out and non-completion. The findings of this study contributes to the body of knowledge on student attrition by an in-depth understanding of the reasons for MBA drop-out and non-completion through the lived experiences of participants.

6.6 Contribution of this study

The place and value of this PhD study to the field of Industrial or Organisational Psychology will be discussed briefly. A further objective will be to explore the variables that impact on academic success in an MBA programme and the reasons for drop-out from the programme.

Career psychology, which is a sub-field of Industrial Psychology, is defined by Bergh and Theron (2006) as a field "...concerned with studying issues of career development with regard to individuals, the nature of employment, career-related issues in organisations and also non-work influencing factors". The specific focus of career psychology, and where this thesis focusses, falls upon career, job and organisational choice and withdrawal behaviours, problems with career development and factors that influence individuals in their careers. The thesis has contributed specifically by determining the factors that contribute to the success of MBA first-year candidates and evaluating the predictive value of cognitive ability, selection criteria and managerial competencies in the subsequent completion of the MBA programme, and further determining the reasons for drop-out and non-completion of the MBA programme.

In order to summarise the contribution of this thesis, the conclusions of the four articles are briefly summarised in the next section.

6.7 Conclusions Article 1

Article 1 determined the predictors of first year MBA success and explored current selection processes and prerequisites to the MBA programme. MBA first year success defined here as the successful completion of all first year MBA modules within the first academic year. The study found that cognitive ability, and specifically numerical ability to be the best predictor of MBA first year success. This finding supports findings in literature that found cognitive ability to be an accurate predictor of MBA academic performance (Clayton & Cate 2004; Hill, Hynes, Joyce, & Green, 2011; Hoefer & Gould, 2000; Schwartz, Strowe, & Sendall, 2008; Terry, Owens, & Cooley, 2009). It is directly in line with the findings of South African findings by Kotze and Griesel (2008), that found numerical ability to be the best predictor of academic performance.

The study further concluded that age is related to MBA first year success in that younger students performed better than their older fellow students. This is in contradiction with MBA selection practices requiring five years or more working experience, with the premise that older MBA students have more to contribute in experience and knowledge, and that work experience adds value to academic performance. Gender was found to have no relation to MBA first year success.

Regarding former education the study concluded that students with a Bachelor's qualification with a broad base of numerically-based knowledge had an influence on MBAI success. Numerically based qualifications were defined as BCom, BSc, BPharm, BSTA, BTech, LLB, master's and PhD

qualifications. The MBAI curriculum of the study population are loaded with three numerically-based modules of which the success rate was lower that non-numerical modules. The numerically based modules referred to are Financial accounting, Managerial statistics and Managerial economics.

It was further concluded that English proficiency has an influence on academic performance. Students with a home language other than English or Afrikaans had less academic success than English or Afrikaans students. Studies within the international context also found that English proficiency has an influence on academic success. (Berman & Cheng 2001; Dooey & Oliver, 2002; Poyrazli, Arbona, Bullington, & Pisecco, 2011; Woodrow, 2006).

6.8 Recommendations Article 1

Selection criteria to predict MBAI success analysed in this study proved that some criteria in selection models were less reliable than others, which may suggest that selection processes of business schools need to be reviewed.

Cognitive ability as part of the selection programme used by many business schools proved to be a reliable and robust predictor of MBA academic performance. Numerical cognitive ability proved to be a better predictor than the verbal ability assessment, which might have a link to the curriculum and field of study of the MBA programme. It should especially be noted that in the evaluated programme, subject matter in the first year of study is also skewed towards numerical subjects (for example, Statistics and Accounting). A recommended solution might be a more equal spread of numerically-based modules of the MBA curriculum to improve the MBAI pass rate.

A bridging course in financial accounting is a further recommended for students with qualifications from qualitative fields of study in order to provide a basis in quantitative studies. Accordingly, focus of previous education also proved to have predictive value in terms of MBA success. Students with previous education in numerically-based fields of study had a better success rate than students from other fields of study. Firstly, the prerequisite of a Bachelor's degree in most MBA programmes is therefore supported. It may also be refined to be a Bachelor's degree with some minimal quantitative component (Statistics, for example), which could improve throughput and MBA academic success. It was further determined that the numerically-based modules had the largest failure rate of which Financial accounting posed to be the biggest obstacle.

The findings of this study once again highlight the importance of language of delivery in education. It is recommended that the intellectualisation of the African languages is pursued further, as proposed by Finlayson and Madiba (2002), to ensure education in the mother tongue also becomes a reality at the MBA level. Simultaneous translation services in African languages can

be proposed with the delivery of the programme, although some subject terminology could pose a problem (see Finlayson and Madiba 2002).

The potential practical implications of the above recommendations for business schools are; the implementation of an adapted curriculum and phasing out of current curricula. The implementation of adapted selection criteria, providing bridging courses in financial accounting, a focus on the intellectualisation of African languages, or alternatively providing more widely translation services for non-English speaking students.

6.9 Conclusions Article 2

The study explored the challenge that business schools face regarding the timeous completion of and throughput in the MBA degree. Variables associated with MBA completion was determined by logistic regression analysis. Cognitive ability, age, language and former education were identified and further analysed. Younger students performed better than older students of the population, showing that age is related to timeous MBA completion. This finding corresponds with the findings of Scholtz and Pienaar (2018, p. 283) and Van den Berg and Hofman (2005, p. 439). First language proved to have an influence on the timeous completion and throughput of the MBA degree. English and Afrikaans students were more likely to complete the MBA than students that had other African languages as first language.

Regarding throughput the study concluded that 17% of students that completed the MBA, needed a fourth year to do so. Within this study throughput was defined as the completion of the MBA degree within the minimum 3, to allowed 4 years. It was further determined that 88% of students that had to register for a fourth year of enrolment, were registered for the dissertation.

6.10 Recommendations Article 2

Language of delivery proved to have an influence on MBA completion and throughput. English language proficiency of students who were confronted with obtaining a degree in a second or third language in their home country were challenged. Translation services of the main African languages of the population, namely Sesotho and Setswana are recommended in MBA contact sessions. This will support the drive to intellectualise African languages.

Regarding MBA enrolment requirements and selection criteria, it is recommended that business schools review and shorten the years of work experience required as prerequisite. Currently a Bachelor's degree and 3 years work experience is required in order to enrol onto the MBA degree. The study found that younger students perform better that older students, thus the years of experience required could be shortened.

Cognitive ability proved to be a reliable predictor of MBA academic performance, it is thus recommended that cognitive ability should be retained as part of the selection process.

A further recommendation is that the MBA third year curriculum and work load should be reviewed. The content of the module in research methodology should be optimised to best prepare students for the dissertation. The completion of the dissertation has an influence on throughput rate. Seventeen per cent (17%) of students need a further year of study to complete the dissertation. The above recommendation could improve throughput rate and decrease the time study leaders need to spend in guiding students for the dissertation.

6.11 Conclusions Article 3

Results of the study showed that of the eight main dimensions (great 8) of managerial competencies measured, Creating and conceptualising was the best predictor of MBA academic success, with a medium effect size (Steyn, 2012). The competency of Creating and conceptualising, consists of three sub-scales namely; Learning and researching, ii) Creating and innovating, and iii) Formulating strategies and concepts.

The second managerial competency most predictive of academic success was Supporting and co-operating, with a small effect size (Steyn, 2002). The competency Supporting and co-operating consists of two sub-scales namely; Working with people and Adhering to principles and values. The first sub-scale, Working with people, indicates respect for others views, empathy, good listening skills, caring for others, creating good team spirit and the ability to resolve conflict.

Results showed that that both “hard skills” and “soft skills” has predictive value towards performance on the MBA programme. Creating and conceptualising can be deemed related to intelligence and critical thinking, which would be categorised as “hard skills”, while Supporting and co-operating is related to social skills which would be categorised as “soft skills”.

The biographical variable age, showed the best prediction of academic success with a large effect size (Steyn, 2012). This is in contrast with the presumption that work experience is related to MBA success as portrayed in the selection requirements of most business schools. This result corresponds with the findings of Scholtz and Pienaar (2018, p. 283) and Ekpenyong (2000, p. 50), in finding that younger students were more representative in successfully completing the MBA within the allotted timeframe than older students were. Regarding the relation of age to managerial success, the opposite may be true, in that older managers with more experience might be more successful than younger managers. Marchant et al. (2009, p. 433) found that as employees aged, their mental toughness increased, which made them more effective as managers, by an enhanced sense of self-belief and unshakable faith in achieving success.

Language proved to have significance in that 82 per cent of students with Afrikaans or English as home language passed within the required time, while only 53 per cent of students with other languages as first language passed within the required time. In support of this finding, English proficiency was found to also have an influence on academic success within international context (Berman & Cheng, 2001; Dooey & Oliver 2002; Woodrow, 2006). Gender and previous qualification did not show significance in relation to academic performance.

6.12 Recommendations Article 3

The viability of Business Schools depends on delivering the management skills the market demands (Bennis & O'Toole, 2005, p. 96). Findings of this study highlighted the importance of the competency Creating and conceptualising (with sub-scales of Learning and researching, creating and innovating and Formulating strategies and concepts). These competencies had the most significant relation to MBA academic success and are of importance for managerial effectiveness (Patanakul & Milosevic (2008, p. 128). Patanakul and Milosevic found that the competency of strategic thinking is key to managerial effectiveness. The said skills will probably be categorized as hard skills rather than soft skills (Welton, 2016, p. 1).

Findings of this study further showed that the competency Supporting and co-operating (with sub-scales of Working with people and adhering to principles and values) is related to academic success. The competencies contained in this dimension have also been found to have relation to effective management in literature and are typically categorised as soft skills (Matteson, Anderson & Boyden, 2016, p. 75).

Results of the study thus indicated that both "hard skills" and "soft skills" had predictive value towards performance on the MBA programme. Creating and conceptualising was be deemed related to intelligence and critical thinking, which would be categorised as "hard skills", while Supporting and co-operating is related to social skills which would be categorised as "soft skills".

Although the literature pleads for more emphasis on "soft skills" (Bennis & O'Toole, 2005; GMAC, 2012; Matteson et al., 2016; Navarro, 2008; Stevenson & Starkweather, 2010; Weber et al., 2009), results still suggest a need for a balance in academic curricula with "hard skills". Balcar (2016, p. 469) opines that the appropriate solution is the simultaneous accumulation of soft- and hard skills in the framework of education systems. O'Shannassy, Kemp and Booth (2010, p. 478) argue that "soft skills" interact with, and assist the sound practice of "hard skills".

Considering the importance of practice in sustaining abilities effectively, Salas, Wildman and Piccolo (2009, p. 572) suggest that a simulation-based training approach should be considered

by educational institutions. The authors poses the question whether certain skills or experiences could not be taught more effectively in a highly immersive realistic setting, and performance also thus be accurately measured. In support of the above literature and findings of this study it is recommended that business schools revisit and adapt their curricula to suggestions made in literature as well as market demands in order to stay relevant and viable.

One of the prerequisites for the programme under investigation, still requires three years working experience although younger students proved to perform better academically than older students. The dimension of age, entwined with the MBA-programme entrance requirement of work experience, and the finding that greater experience is related to being a better manager in other research, seems to present a conundrum. Younger students perform better in academic studies – also in management studies – but it is with experience that one becomes a better manager. It may however be so that completion of the MBA also speeds progression into a managerial position. These relationships are worth investigating in future research.

6.13 Conclusions Article 4

The focus of this study was to explore the reasons for drop-out and non-completion of MBA students though reflecting on their lived experience that led to drop-out and non-completion. The current body of knowledge on drop-out from management studies are mostly based on studies with a quantitative research design. This interpretive phenomenological study provides a deep understanding of the reasons of student drop-out and non-completion.

The main finding of this study was that the interaction between internal- and external aspects combining into what participants described as coinciding circumstances were the primary reason for dropping out of the MBA programme.

The MBA programme investigated is a part-time programme and all participants held a full-time occupation. The combination of part-time studies, occupational aspects and personal aspects, (that were described as internal- and external factors in the study), proved too much for participants to absorb, and ultimately led to drop out from the programme. Davies (2000, p.8) concurringly postulates that withdrawal is more likely to occur when there are coinciding factors from external (e.g. personal, financial or employment related), and internal (e.g. quality of support at classroom level) origin, that impacts on the student personally. Examples of internal factors illustrated in this investigation include mental capacity, time management, work pressure, family related aspects, psychological aspects, personal pursuits, change in career direction and perception of no career advancement. External factors that emerged from the interviews are for example organisational change, occupational aspects and the MBA programme.

As emphasised by Bennet (2003, p. 139) on the psychological impact on personality in the form of diminished self-esteem as result of dropping out from post-graduate studies should not be underestimated. Participants of this study suffered severe psychological consequences in the form of diminished self-esteem, feelings of guilt, inferiority, remorse and disillusionment.

6.14 Recommendations Article 4

Note should be taken of the findings of this study concerning internal- and external factors that had an influence on drop-out. As mentioned earlier, examples of internal factors illustrated in this investigation include mental capacity, time management, work pressure, family related aspects, psychological aspects, personal pursuits, change in career direction and perception of no career advancement. External factors that emerged from the interviews are for example organisational change, occupational aspects and the MBA programme. More qualitative research on these specific factors mentioned above would add value to the existing body of knowledge on drop-out and non-completion of post-graduate studies.

6.15 Final conclusions

The focus of this thesis were to i) specifically predict the success and/or failure of first year MBA candidates with the use of cognitive ability (verbal and non-verbal) instruments; ii) to gain a deeper understanding of factors that contribute to the completion and throughput rates of a MBA programme; iii) to determine if managerial competencies are related to subsequent MBA academic performance; and iv) Gaining a deep understanding for the reasons of MBA drop-out and non-completion.

Recommendations were made after each article and managerial implications were put forward. The insight the study brought upon understanding the role and predictive value of cognitive ability, personality and managerial competency upon MBA academic performance makes a significant contribution to this field of study. The study further contributes by gaining deep insight into, and understanding the demands of the corporate market regarding managerial competencies of MBA graduates and what the MBA curriculum should include. The motivation of obtaining an MBA degree has been towards accomplishing a career move or facilitating progression in a career (Baruch & Peiperl, 2006), which was confirmed by the results of this study. Learner motivation to gain career advancement by means of a MBA degree, were confirmed by this study. Traditionally, the career path was viewed as moving upward in the hierarchal ladder of the organisation. This has been replaced by the notion that multiple skills pave the way to career advancement (Schreuder & Theron, 2001). Prospective MBA students perceive the MBA degree as a tool to acquire the necessary skills and managerial competencies to move forward in their career (Baruch & Peiperl, 2006), which was also the confirmed by results of this study. The finding of Buchanan, Kim and Basham (2007, p. 282) that pursuers of business degrees were strongly

motivated by professional advancement and career progress supports this motive expressed by participants of this study. Traditionally, the career path was viewed as moving upward in the hierarchal ladder of the organisation. This has been replaced by the notion that multiple skills pave the way to career advancement (Schreuder & Theron, 2001). It is clear that the focus of this study will contribute to the field of career psychology.

The study further contributes towards the understanding of the reasons of drop-out and factors that contribute towards early withdrawal from tertiary education. Attrition in higher education has been widely researched and retention models have been developed in the quest to explain and develop a deeper understanding of student retention. An integrationist perspective was used in the early models to explain student retention. The first year of student orientation was seen as either to be strengthened or weakened, depending on the effectiveness of the integration efforts of the institution (Tinto 1987 , 1993). According to the interactionist viewpoint, these early models was seen as too one-sided, with the focus on the broad influence of the institution on student decision-making (Palmer, 2001, p. 354). Brunsden, Davies, Shevlin and Bracken (2000, p. 310) propose that in the light of the inherent problems in the Tinto model, there is a need to look differently at, and find new explanations for, student dropout. The perspective of the student should stand central to such investigations, taking into account the students' experience and the context within which their decisions are made. Brunsden et al., (2000, p. 310) postulated that a qualitative approach such as interactionism and ethnography could provide rich and meaningful understanding and accounts of the situation of an individual. It is clear that theory may benefit from a consideration of both so-called internal and external factors affecting student attrition. From the knowledge gained from this study a new model of student retention and drop-out will be proposed in Figure 6.1 below.

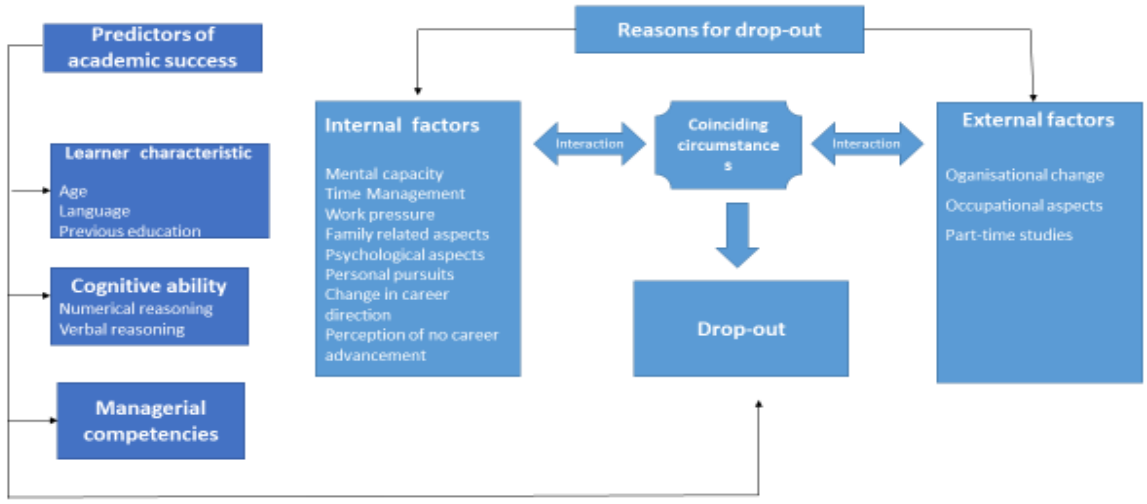


Figure 6-1: Model of student retention and drop-out

This study investigated student attrition and reasons for drop-out from the perspective and experience of the student, in answer to the quest of Brunsden et al. (2000, p. 310). Brunsden et al. proposed that the student should stand central to further investigation of student attrition and that a qualitative approach would add value to the current body of knowledge. The proposed model recognises the interaction between internal- and external factors as proposed by Park (2007, p. 5) and aims to present a more inclusive model of student attrition.

REFERENCES

Balcar, L. (2016). Is it better to invest in hard or soft skills? *Economic and Labour Relations Review, 27*(4), 453-470.

Baruch, Y., & Peiperl, M. (2006). The impact of an MBA on graduate careers. *Human Resource Management Journal*, *10*(2), 69–90.

Bennis, W. G., & O'Toole, J. (2005). How business schools lost their way. *Harvard Business Review, 83*(5), 96–104.

Berman, R., & Cheng, L. (2001). English academic language skills: perceived difficulties by undergraduate and graduate students, and their academic achievement. *Canadian Journal of Applied Linguistics, 4*(1–2), 25–40.

Brunsden, V., Davies, M., Shevlin, M., & Bracken, M. (2000). Why do HE students drop out? A test of Tinto's model. *Journal of Further and Higher Education, 24*(3), 301–310.

Buchanan, R. F., Kim, K-H., & Basham, R. (2007). Career orientations of business

master's students as compared to social work students: further inquiry into the value of graduate education. *Career Development International, 12*(3), 282-303.

Clayton, G. E., & Cate, T. (2004). Predicting MBA no-shows and graduation success with discriminate analysis. *International Advances in Economic Research, 10*(3), 235–243.

Dooey, P., & Oliver, R. (2002). An investigation into the predictive validity of the IELTS test. *Prospect, 17*(1), 36–54.

Ekpenyong, B. (2000). Empirical analysis of the relationship between students' attributes and

performance: a case study of the University of Ibadan (Nigeria) MBA programme. *Journal of Financial Management & Analysis, 13*(2), 54-63.

GMAC ***see*** Graduate Management Admission Council.

Graduate Management Admission Council (GMAC). (2012). *Guide to the use of GMAT*

Hill, K. L., Hynes, G. E., Joyce, M. P., & Green, J. S. (2011). GMAT AWA score as a predictor of success in managerial communication course. *Business Communications Quarterly 74*(2), 103–118.

Hoefer, P., & Gould, J. (2000). Assessment of admission criteria for predicting students' academic performance in graduate business programs. *Journal of Education for Business, 75*(4), 225-229.

Kotze, M., & Griesel, L. (2008). Predicting the academic performance of MBA students by means of specific aptitudes and competencies. *Journal for New Generation Sciences, 6*(2), 60–79.

Marchant, D. C., Polman, R. C. J., Claugh, P. J., Jackson, J. G., Levy A. R., & Nicholls, A. R. (2009). Mental toughness: managerial and age differences. *Journal of Managerial Psychology, 24*(5), 428-437.

Matteson, M. L., Anderson, L., & Boyden, C. (2016). "Soft skills": a phrase in search of meaning. *Libraries and the Academy, 16*(1), 71-88. doi: 10.1353/pla.2016.0009

Ministry of Higher Education and Training ***see*** South Africa. Ministry of Higher Education and Training.

Navarro, P. (2008). The MBA core curricula of top-ranked US business schools: a study in failure? *Academy of Management Learning & Education, 7*(1), 108–123.

O'Shannasy, T., Kemp, S., & Booth, C. (2010). Case studies in MBA strategic management curriculum development from Australian universities. *Journal of Management and Organization,16*(3), 467–480.

Palmer, J. (2001). Student dropout: a case study in new managerialist policy. *Journal of Further and Higher Education, 25*(3), 349–357.

Park, J. (2007). Factors related to learner dropout in online learning. In F. M. Nafukho, T. H. Chermack, & C. M. Graham, (Eds.) *Proceedings of the 2007 Academy of Human Resource Development Annual Conference* (pp. 25-1-25-8). Indianapolis, IN: AHRD.

Patanakul, P., & Milosevic, D. (2008). A competency model for effectiveness in managing multiple projects. *Journal of High Technology Management Research, 18*(2), 118–131. https://doi.org/10.1016/j.hitech.2007.12.006

Poyrazli, S., Arbona, C., Bullington, R., & Pisecco, S. (2001). Adjustment issues of Turkish college students studying in the United States. *College Student Journal, 35*(1), 52-62.

Salas, E., Wilson, K. A., Lazzara, E., King, H. B., & Augenstein, J. S. (2008). Simulation-based training for patient safety: 10 principles that matter. *Journal of Patient Safety, 4*(1), 3-8. doi: 10.1097/PTS.0b013e3181656dd6

Scholtz, E. M., & J. Pienaar. (2018). The prediction of the success of first-year MBA candidates: one business school as a case study. *South African Journal of Higher Education, 32*(5), 270-288.

Schreuder, A. M. G., & Theron, A. L. (2001). *Careers: an organisational perspective* (2nd ed.). Cape Town: Juta.

Schwartz, L., Strowe, K., & Sendall, P. (2008). Understanding the factors that contribute to graduate student success: a study of Wingate University's MBA program. *Conference Proceedings of the Academy of Business Education, 9* (pp. 1-11). Retrieved from https://scholarworks.merrimack.edu/mgt_facpub/32 1–11.

South Africa. Ministry of Education. (2001). *Draft National Plan for Higher Education in South Africa*. Pretoria: Government Printer.

Stevenson, D. H., & Starkweather, J. A. (2010). PM critical competency index: IT execs prefer soft skills. *International Journal of Project Management, 18*(7), 663– 671.

Steyn, H. S. (jr.). (2002). "Practically significant relationships between two variables. *SA Journal of Industrial Psychology, 28*(3), 10-15

Steyn, H. S. (2012). Manual: effect size indices and practical significance. North-West University, Potchefstroom. Retrieved from http://natural-sciences.nwu.ac.za/sites/natural-sciences.nwu.ac.za/files/files/SDK/Chapter%208_a.pdf

Terry, N., Owens, J. K., & Cooley, J. W. (2009). The impact of instruction mode on student performance in graduate financial management. *The Journal of Human Resource and Adult Learning, 5*(1), 148-154.

Tinto, V. (1982). Limits of theory and practice in student attrition. *Journal of Higher Education, 53*(6), 687-700.

Tinto, V. (1993). *Leaving college: rethinking the causes and cures of student attrition* (2nd ed.). Chicago, IL: University of Chicago Press.

Van den Berg, M. N., & Hofman, W. H. A. (2005). Student success in university education: a multi-measurement study of the impact of student and faculty factors on study progress. *Higher Education, 50*(3), 413–446

Weber, M. R., Finely, D. A., Crawford, A., & Rivera, D. J. (2009). An exploratory study identifying soft skill competencies in entry-level managers. Tourism and Hospitality Research, 9(4), 353-361. https://doi.org/10.1057/thr.2009.22

Welton, D. (2016). Critical thinking is not a soft skill. Critical Thinking Group. Retrieved from http://www.grovecriticalthinking.com/news/2016/9/16/critical-thinking-is-not-a-soft-skill

Woodrow, L. (2006). Academic success of international postgraduate education students and the role of English proficiency. University of Sydney Papers in TESOL, 1, 51–70. Retrieved from http://faculty.edfac.usyd.edu.au/projects/usp_in_tesol/pdf/volume01/article03.pdf