



**IMPACT OF BRAND IMAGE OF THE BUSINESS SCHOOL:
FROM THE RECRUITERS' (EMPLOYERS') PERSPECTIVES**

A Thesis submitted by

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ABSTRACT

Business Schools value their brand image as this is essential in recruiting top quality students and can assist in placing them in lucrative employment once they have graduated. A school's brand image also provides a clear distinction between various business schools, and this image helps others to determine their elite status amongst competitors. While brand image is influenced by several factors, there are two clear domains emerging: curriculum-related factors, and non-curriculum related factors. In curriculum-related factors, the quality of the curriculum, evidenced by strong quality assurance processes, and the high-quality faculty, infrastructure and internal structures required to sustain employment are taken into consideration. In non-curriculum-related factors, the professional accreditation standards, quality of alumni and their performance in employment positions, physical location of the Business School, access to research infrastructure both internally and externally and emotional factors are domains that influence brand image.

While the literature globally has identified many factors associated with the brand image of Business Schools, this study aims to discern which factors have relevance to modern Business Schools. For example, the role of Information Communication Technologies (ICT) and their influence in curriculum delivery has gained attention in recent years, and this study seeks to explore other similar domains which are relevant in a contemporary context.

Due to the plethora of information available in this domain, and the vast awareness found, this study identified specific constructs that needed revalidation. These eight constructs included: (1) expectation of recruiters; (2) alumni quality, (3) placement record, (4) governance, (5) the reputation of the business school, (6) faculty competency, (7) infrastructure, and (8) emotional factors. These were further discussed in terms of their attributes to filter down to the key aspects that determine these eight constructs. In total, this study identified 41 key influences which were tested through a quantitative survey to assert their influence on the brand image of a Business School. In doing so, a Partial Least Square model was designed to test eight hypotheses which matched the eight research questions raised.

The Partial Least Square based Structure Equation Modelling – a second order regression statistical technique – employed in this study provided robustness to the statistical testing. A total of 438 datasets were used in the modelling and the confidence interval was set to at least at 90% to assert the variables. The chosen context was Indian Business Schools. Due to the researcher’s prior knowledge of this field, and the strong support in the literature, this study set directional hypotheses rather than null hypotheses. As a result of rigorous data analyses, all eight hypotheses were found to be strongly supporting the notion that the eight factors contribute to the brand image of Business Schools.

The theoretical implication of the study is that curriculum and other educational administrators should carefully consider how these eight constructs are handled in their own environment as each environment is unique. Regardless of the educational institution context factors – in terms of recruiters – graduate attributes are treated uniformly, so normalising these eight factors within the educational institution will provide assurance to the recruiters, as they will have confidence in a Business School that has made these variables visible. In terms of practice, these eight factors present an essential set of characteristics both students and recruiters are looking for to make study and employment selections respectively. By paying attention to these eight constructs and the 41 factors dictating these domains, there is assurance that a Business School can improve its brand image from the perspective of recruiters.

CERTIFICATION OF THESIS

This thesis is entirely the work of Srinivas Phani Kavuri except where otherwise acknowledged. The work is original and has not previously been submitted for any other award, except where acknowledged.

Principal Supervisor: Associate Professor Abdul Hafeez Baig

Associate Supervisor: Professor Raj Gururajan

Student and supervisors' signatures of endorsement are held at the University.

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DEDICATION

I dedicate this thesis to

The God Almighty for providing the strength and endurance to complete this study

My beloved parents

My beloved wife

My children who tolerated my absence from time to time

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ABBREVIATIONS

ACBSP	- Accreditation Council for Business Schools and Programs
AACSB	- Advance Collegiate Schools of Business
ADANCO	- Advanced Analysis of Composites
AICTE	- All India Council for Technical Education
AQ	- Alumni Quality
AI	- Artificial Intelligence
AMBA	- Association of MBA
ABDC	- Australian Business Deans Council
AVE	- Average Variance Extracted
BI	- Brand Image
COVID19	- Coronavirus Disease 2019
CSR	- Corporate Social Responsibilities
CBBE	- Customer-Based Brand Equity
EBSCO	- Elton B. Stephens Company
EM	- Emotional Factors
ERP	- Enterprise Resource Planning
EQUIS	- European Quality Improvement System
ER	- Expectation of Recruiters
FC	- Faculty Competency
GV	- Governance
GPA	- Grade Point Average
HR	- Human Resource
ICT	- Information Communication Technologies
IT	- Information Technology
IN	- Infrastructure
ISI	- Institute for Scientific Information
JSTOR	- Journal Storage
MBA	- Master of Business Administration
MNC	- Multinational Company
MIMIC	- Multiple Indicators, Multiple Causes
PLS	- Partial Least Square
PLS	- Partial Least Squares
PR	- Placement Record
RB	- Reputation of Business School
SEM	- Structural Equation Model
ABEST21	- The Alliance on Business Education and Scholarship for Tomorrow, a 21st century organization
VLE	- Virtual Learning Environments

CHAPTER 1: INTRODUCTION

1.0 Business Education

Business Education is a multi-billion-dollar industry and considered to be the backbone of many tertiary educational institutions. Students from various backgrounds choose Business Education for a variety of reasons, and many premier institutions, such as Harvard University, provide specific Business Education programs to suit specific cohorts. For example, Healthcare Management is a business program offered to professionals working in the healthcare domain.

In the context of Business Education itself, Master of Business Administration (MBA) is a well-known program that many institutions offer to prospective students. The 1980s – 2000s saw an influx of engineering graduates undertaking MBA programs as employment opportunities were enhanced by adding this to their profile. In recent years, many specialisations have been introduced in the general management areas to provide different flavours, and these include data sciences and digital marketing. The versatility of Business Education to accommodate the new areas has provided the domain with sustainability and relevance in the industry sector.

In addition to these areas of inclusion, Business Education is also enhanced by employment opportunities. A major trend that is seen in many Business Programs is the preparation of graduates to face employment challenges, and recruiters have capitalised on these skills to source relevant and meaningful employment for Business graduates.

1.1 Brand Image

In the context of graduates securing employment, brand image plays an important role. It appears that brand image enhances the position of business schools in attracting students, as well as recruiters, into an educational organisation. Brand image also provides differentiation of a Business School from the cluster of other organisations and can increase the popularity of a Business School among students and recruiters.

The brand image is portrayed and viewed in many diverse ways. For example, in some countries, brand image is seen in terms of 'ivy league' institutions. In other countries, brand image is viewed through the lens of rankings. Brand images are also seen in terms of the 'boutique' and 'elite' status offered to certain clusters of institutions, with a notable example of this the Indian Institute of Management in India. However, in defining the brand image, it is essential to consider the various elements of the brand that contribute to the consumer's perception. In this context, consumers are identified as being students, faculty, recruiters and other stakeholders that contribute to the definition of a Business School's standing in the market. Thus, brand image can be defined as those value propositions that outline consumer sentiments, leading to the determination of consumer behaviour in joining a Business School or choosing a graduate for employment.

1.2 Business School Recruiters (Employers)

With this overarching context, this study also explored the determinants that impact on the brand image of Business School from the recruiter's perspective. Since the recruiters are valuable stakeholder of any business school, their expectations should be commensurate and compatible with course curriculum, training facilities, technology infrastructure and research calibre. Further recruiters also expect a good infrastructure, high teachers' competency and last but not least the competency of the business graduates. In view of the considerable importance attached to the recruiters, this research study is conducted to fulfill the expectations of them from business schools.

The context chosen is the educational organisations that provide business administration or management programs to students and includes those entities that teach topics such as accounting, management, entrepreneurship, marketing, public relations, and Information Technology (IT), as these topics are aligned with business operations.

1.3 Literature review

The literature review conducted for this study indicated that in order to improve their branding competency, business schools seek professional accreditations from accreditation agencies like the Accreditation Council for Business Schools and Programs (ACBSP), Association to Advance Collegiate Schools of Business (AACSB), and the International Accreditation Council for Business Education (IACBE) in the United States and the European Quality Improvement System (EQUIS) in Europe so as to establish their standing in the educational market. In the Indian context, the All India Council for Technical Education (AICTE) is responsible for accrediting business schools. Therefore, it can be assumed that in addition to professional accreditation, educational institutions also comply with regulatory environment standards so as to maintain their standing and ensure uniformity of the curriculum.

1.3.1 Factors influencing brand image of the business school

The literature review conducted for this study identified eight specific domains (constructs) influencing the brand image of the business school: (1) expectation of recruiters; (2) alumni quality, (3) placement record, (4) governance, (5) the reputation of business school, (6) faculty competency, (7) infrastructure, and (8) emotional factors.

This study chose Business Schools as the study context. As the literature was definitive on the eight factors, this study employed a survey approach to provide scientific evidence that these eight factors influence the branding of a Business School. In order to ascertain the quality and validity of evidence, this study designed a Second Order Regression modelling to provide a confirmatory analysis as this is the standard protocol for studies that aim to confirm known factors. While a qualitative-quantitative mixed approach could have been employed, due to the plethora of information available on this topic in the literature, the researcher decided to take a quantitative approach only.

1.4 Structure of thesis

The thesis is structured as follows:

Chapter 1 introduces the topic, factors affecting brand image of the business school from recruiters' perspectives. It also deals with justification and significance of the research along with summary of the whole research approach.

In Chapter 2, the researcher has provided evidence from the literature on the eight factors identified as influential in determining the brand image of a Business School. This involves conducting a targeted literature review by identifying a set of premier journals in the context of the study. The review is focused, with each factor discussed in the context of attributes impacting upon it, and at the end of each discussion, a research question was posed to seek answers to gaps in the knowledge.

Chapter 3 provides details of the research methodology. Discussion is provided on the suitability of the survey methodology and this is further justified within the chapter.

Chapter 4 highlights the conceptual framework and hypotheses developed for this study. As this study is using a second order regression approach, hypotheses development is crucial, and Chapter 4 has been dedicated for this development.

Chapter 5 provides a detailed discussion on the quantitative analyses. Using a Partial Least Square (PLS) application, 438 datasets were analysed to assert the outcomes of the hypotheses. In addition to testing the hypotheses at the construct level, this study also tested every questionnaire item associated with the construct to provide evidence, which is a unique approach followed in this study.

Chapter 6 provided a discussion on the outcomes of the hypotheses testing. This chapter is rather customary as the literature already has provided strong evidence on the choice of constructs. However, due to the context chosen, discussion centred on the key reasons for the outcomes.

Chapter 7 concluded the study with sections on limitations and future improvement.

1.5 Limitation and scope of future research

The research study is limited to positivist survey only. Further, the thesis has been started prior to COVID-19, the effects of which were not considered here. This study explored recruiters' perspectives of students; the study did not explore whether there is any bias in terms of institutional standing. The study specifically looked at brand image within business schools. However, many Business programs are offered as inter-disciplinary programs, which are likely to affect overall perception and image. This selection bias is noted in this study.

1.6 Conclusion

This chapter deals with introducing brand image of the business school along with expectation of the recruiters (employers). It also defined the brand image as well as expectations of the recruiters. It stresses justification and significance of this research. The next chapter will deal with literature review specifically reveal the factors and independent variables influencing the brand image of the business school. The various factors influencing brand image of the business school were taken from standard literatures listed in popular indexed journals. Under each independent variable, research gaps are identified for the preparation of questionnaire survey.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

Chapter 1 introduced the topic of this thesis with an explanation of factors influencing the brand image of business schools from recruiters' perspective. This culminated in specific research problems and research questions posited along with the objectives of the research, scope of the research and approach to the thesis in this chapter. In addition, it also presented the outline of the 7 chapters developed for the thesis.

This chapter includes the literature review and salient elements pertaining to this study. The purpose of this chapter is to investigate brand image, and to identify the progress of literatures made in terms of brand image to elicit an appropriate research gap. In doing so, this chapter has reviewed key articles and will present a cohesive argument leading to the establishment of a research gap.

2.2 Literature review and its Background: Secondary sources of data

The purpose of literature review is to understand the grassroots of the area of research. By having in-depth study of the various literatures on brand image, the researcher acquires in-depth research knowledge on the subject. It also helps to ascertain the current progress made on the subject and provides a platform for future research to be dealt in this thesis. The future research is based on unresearched areas which are reflected in the form of research gap. The research gap can be had from the future scope of research mentioned in the articles reviewed. The sources leading to the review of literature in this study consists of data extracted from Google Scholar, Deep Dyve, EBSCO, ProQuest, ISI Thomson, JSTOR and ABDC index. Within these databases, the following journals were identified for the literature search:

- a) Journal of Marketing;
- b) European Journal of Marketing;
- c) Journal of Marketing Management;
- d) Strategic Marketing Management;
- e) Strategic Management Journal;

- f) Journal of Marketing Education;
- g) Journal of Social Sciences;
- h) Long Range Planning;
- i) Journal of Brand Management;
- j) Journal of Vision;
- k) Journal of Marketing Communication; and
- l) Journal of Business.

Sources were also comprised of white papers, conference presentations, papers from public and private organisations, books, and dissertations pertaining to brand image. As far as possible, considerable concentration was given on the recency of data.

2.2.1 Brand Image in the context of the Educational Journey:

Brand image plays an important role in enhancing the position of business schools and attracting students and recruiters towards an educational organisation. It differentiates the business schools from the clusters of other organisations and increases its popularity among students and recruiters. Recruiters play an important part in the interview process and conducts the process of engaging a student from the preliminary screening phase to the final selection of candidates, with the aim being to fill the vacant position with the right talent. The recruiter performs the duty of conducting the interview (via telephone or video call) to ensure the candidate is interested in the job opening, and reviews the quality of the candidate's credentials, including identifying whether the candidate meets the basic prerequisites of the role. As part of this undertaking, the recruiter analyses the responses provided by the candidate in order to ascertain whether the candidate is suitable for the position and the organisation more generally. Hence, it can be determined that the recruiter plays a vital role in recommending the right candidate to the hiring managers and selection panel, as well as playing a crucial part in the coordination of logistics, validation of references and in the determination of whether the candidate is suitable for the position overall.

In order to evaluate an institution's brand image, it is essential to consider various elements of the brand development process and the consumer's perception of the product or service. In particular, the brand image defines the consumer's sentiments and determines the consumer's behaviour while making selections. The construction of a brand image lies at the intersectional point that exists between a business school's core values and the expectations of the stakeholder.

A business school can improve its image by enhancing student feedback and establishing good relations with corporations. This can help to develop several brand dimensions and improve overall position in the job market. Moreover, the brand image of the business school strongly depends upon several factors like alumni calibre, placement record, governance, the wider reputation of the business school infrastructure, faculty competency and the recruiter's personal opinion and biases. Effective and strategic implementation of all these factors results in skill development of the graduates and an ability to meet industry expectations effectively.

With this overarching context, this study also explored business schools as educational organisations that provide business administration or management programs to students. These entities teach topics such as accounting, management, entrepreneurship, marketing, public relations, and IT, predominantly with the intention of aligning these subjects with business operations. In order to improve their branding competency, business schools seek professional accreditations from accreditation agencies like the Accreditation Council for Business Schools and Programs (ACBSP), Association to Advance Collegiate Schools of Business (AACSB), and the International Accreditation Council for Business Education (IACBE) in the United States and the European Quality Improvement System (EQUIS) in Europe so as to establish their standing in the educational market. In the Indian context, the All India Council for Technical Education (AICTE) is responsible for accrediting business schools. Therefore, it can be seen that in addition to professional accreditation, educational institutions must also comply with regulatory environment expectations in order to maintain their standards of programs.

2.3 The factors influencing recruiters' perception of the brand image of the business school

An initial review of literature indicates that the following factors or determinants having an influence on the brand image of a business school.

- a) Expectations of recruiters
- b) Alumni quality
- c) Placement record
- d) Governance
- e) Reputation of Business School
- f) Faculty competency
- g) Infrastructure
- h) Emotional factors

With this initial focus, the literature was reviewed to arrive at a comprehensive understanding of the chosen domain in which the study was conducted. It will help to develop several brand dimensions and improve its position in the job market.

2.3.1 EXPECTATION OF RECRUITERS (EMPLOYERS)

Under recruiters' expectations, the standard of the business graduates play an important role from the point of recruiters (employers). The following research gaps are identified under the sub-variables (Albright, 2019):

- i. Quality of the students
- ii. Quality of curriculum
- iii. Applied business knowledge
- iv. Location of the business school

Recruiters rate the quality of students in terms of characteristics and skills, matching the job specifications with expected performance in the position. In matching the expected performance, a student's rank is a surrogate for a mark of excellence, and this is seen in the context of the organisation from which a student is

coming from. Recruiters perceive the quality of graduate students based on competency-based professional development. (Albright, 2019).

A study by (Nusrat & Sultana, 2019) asserts that soft skills are essential for sustainable employment of business graduates and that these should be included in the business school curriculum. Nusrat and Sultana (2019) also recommend that while reforming business curriculum, the perception of recruiters on the job-related expertise (soft or non-technical skills) should be considered in addition to academic knowledge (technical skill). The inclusion of these aspects into the curriculum generate considerable confidence among recruiters about the skillset a business graduate would obtain from an institution (El Mansour & Dean, 2016). Recruiters use the Grade Point Average (GPA) as their benchmark, and therefore attributes of soft skills should be reflected in the GPA calculations (Jones, Baldi, Phillips, & Waikar, 2017). Bee and Hie (2015) state that in addition to technical and soft skills, institutions should also provide communication skills and teamwork skills as these traits are now essential in industry domains. They recommend that when developing the curriculum of business programs, institutions should accommodate these skills.

Shinkawa, Saito, Kobayashi, and Hiyama (2017) state that in order to conduct effective job matching, expert tacit knowledge is necessary as this form of knowledge demonstrates domain specific ontology. Y. Huang (2014) highlights the gap between employers' demands and students' perceptions regarding managers' requirements at entry level positions and indicates that the tacit knowledge is one attribute that can bridge this gap. In the context of this study, while investigating the existing gap between recruiters and students with knowledge, skills and abilities required for management positions, the role of tacit knowledge will also be investigated.

Minocha, Reynolds, and Hristov (2017) highlight the deep understanding of the context of a business school, its current and target students, the nature of the wider institution and its location. Porter and Stern (2001) claim that location is a prime factor in determining the quality of graduate, and the ability in generating new ideas and arriving at the commercialisation of these ideas through structured

developments is very important. Hence, location plays a crucial role as the proximity to industries that foster innovation provides 'visibility' to students to understand how to generate ideas and take them to commercialisation successfully. Porter and Stern (2001) suggest that business schools should carefully consider the location in which they are going to be situated. McPhail (2002) states that location is also based on the nature of subjects taught which have relevance to the students' learning.

Thus, it is possible to conclude that recruiters expect that a graduate from a business school should possess applied business knowledge, exhibit good communication and teamwork skills, can generate ideas innovatively leading to commercialisation, and should possess tacit skills to demonstrate domain specific ontology. In order to achieve this skills base, the location of the business school is a key factor. These appear to be the distinctive determinants recruiters use to establish their expectations in a quality business graduate for the graduate to be considered for employment. Based on these attributes, the following research question is raised in this study:

Research question 1: How do business schools enhance their brand image through applied business knowledge provided to their graduates?

2.3.2 ALUMNI QUALITY

Todd Kunsman, (2018), examined the role of alumni making an impact on recruiters and concluded that alumni can make a positive impact due to their positions in organisations, leading to effective branding strategies. Further, alumni can help institutions to claim branding advantages in terms of skill set, performance, leadership, problem-solving, decision making and team attitude of students belonging to an institution. As well as this, institutions also adopt and operate using stimuli which creates a brand image with the help of education quality, and capitalising on this through prominent alumni of the institution. Apart from this, institutions also utilise the alumni network for creating brand equity in the market.

The literature indicates that the following attributes are essential while identifying alumni quality and for an institution to leverage its brand power through its alumni:

- i. Knowledge, trust and skills
- ii. Alumni performance in workplace
- iii. Leadership quality
- iv. Effective leader doing right things
- v. Timely speedier decisions

Alumni knowledge management models for sustainable higher education are of absolute necessity in portraying the alumni as the most important asset of the business school STRAUJUMA and GAILE–SARKANE (2018). A high-profile competitive alumni pool will enable an institution to focus on capturing, saving and reusing customer knowledge, and will allow the alumni to become an essential part of management processes of the institution by providing valuable advice about the make-up of a student. Garner, Gove, Ayala, and Mady (2019) examined the perceptions of alumni and core curricula to assert the gap between the skills employees need in new graduates and curriculum offerings and suggested that institutions can plug in this gap by engaging alumni in the management processes. Schlesinger, Cervera, and Pérez-Cabañero (2017) highlighted satisfaction, shared values and trust the alumnus express will be highly valuable for institutions and indirectly influence brand image.

Valdez and Daguplo (2018) found that positive attitudes encourage alumni to engage in positive behaviours at work and provide strong evidence to the effect that alumnus that receive adequate satisfactory project experience demonstrate high levels of job satisfaction and job performance at their workplace to achieve satisfactory performance. Altuntaş and Baykal (2017) echoed similar views by showing that alumnus was positive in their attitude towards self-evaluation when they received satisfactory project experience both in the institution where they studied and where they work. Wilkerson (2020) stated that non-technical skills (soft

skills) play a key part in career success for those in technical category, and that these skills are essential in the curriculum development to ensure better alignment of programs objectives and the content of specific courses meeting the needs of graduates.

Hiller (2018) highlighted three leadership qualities of managers – namely; caring, clear communication and coaches. While engaging employees for the first time, these three qualities are both an exciting and nerve-wracking experience. This is the most rewarding and impactful work an alumnus would experience. Khanna, Jacob, and Chopra (2019) indicated that behaviour loyalty and a sense of community creates feelings of gratitude towards brand image among alumni. The customer-based brand equity (CBBE) emphasises brand resonance as the most valuable asset in inculcating the leadership qualities of alumni. Garcia-Murillo (2018) stated that managers gain confidence by choosing a course on information management and the leadership in order for them to better interact with stakeholders and convince them as they are able to use information effectively to argue for their case, thus demonstrating leadership qualities.

Mayfield and Mayfield (2017) found that an effective leader should be strong in timely communication, and in getting things done by articulating the information required to perform in the organisation. This involves unambiguous direction-giving language, convincing discussions, and proactively leading the team in the right direction. These qualities are included in the project aspects of curriculum and alumnus learn the basics at this stage (in the educational institution) and then mature these skills in the organisations where they work. Turaga (2017) asserts that an effective leader focuses on excitement and motivation in order to achieve the desired outcome. Learning to adopt oneself to both task and people orientation is also an effective strategy in leadership dynamics. This helps leaders to manage their teams and achieve the targets effectively. It should be noted that these skills are embedded in the curriculum in many Business Schools and students get a chance to learn and hone these skills in institutions. Jain, Chawla, Ganesh, and Pich (2018) identified other

specific characters a leader should have, including warmth, friendliness and an agreeable, competent, effective and efficient manner, as these skills portray leaders as human beings. These skills also help leaders to discover brand personality and align the same with organisations where they work, culminating in a signature. Many business schools provide the opportunity for students to learn these skills, and when students graduate, they can display these skills, thus adding to the brand image of the institution. Recruiters look for these skills when interviewing business graduates.

Schlesinger et al. (2017) analyses the roles of satisfaction, trust, shared values and university image as antecedents to brand image. A prior study highlighted the role of the speed of decision making reflect the qualities of alumni vis-à-vis the brand image of the business school (Panda, Pandey, Bennett, & Tian, 2019). Brand awareness is highlighted by (Mulyono, 2016) as one of the important factors that affects the behaviour of students in making speedier and timely decision. Many times the decision making process of alumni may reflect the reputation of the business school.

Thus, it is evident that alumni quality includes knowledge, trust and skills, alumni performance in the workplace, leadership qualities, effective leadership, timely decision-making and valued teamwork skills. These are the distinctive determinants for alumni quality leading to the second research question:

Research question 2: How do recruiters measure the quality of alumni based on performance?

2.3.3 PLACEMENT RECORD

The placement record mainly includes the time taken for placement, competition, pre-graduation salary, post-graduation and company profile that highly influence the perception of recruiters. Collins and Stevens (2002) suggest that an institution's profile, as well as pre-placement or branding activities, influence recruiting companies in their choice of student selection, and the institution's branding provides a competitive advantage to organisations in attracting the best talent. As a result, it can be said that a good brand image of the educational

institution is pivotal in attracting top quality students and in cultivating these students in both business knowledge and soft skills leads to valuable employment. Such employment influences the salary component students would receive at pre-graduation and post-graduation levels (Attri & Kushwaha, 2018). Literature indicates that if the brand image of the Business school is good, then graduates get higher pre-graduation salary offers, and that this initial offer increases as the student moves towards post-graduation levels.

As a result of the literature review, the researcher identified the following gaps influencing recruitment options of graduates and these are discussed briefly below.

- i. Quality of internship
- ii. Competitive edge of the business school
- iii. Pre-graduation salary
- iv. Post-graduation salary
- v. Placement in multinational companies (MNCs)

Neelam et al. (2019) highlight that an important component of educational preparation is the perceived quality of supervisor-internship which provides a strong stimulus for successful placement record. Supplementing this, Bhattacharya and Neelam (2018) determine that job arrangements, mentorship, employment benefits, learning content, academic supervision, bureaucracy and accessibility are crucial for timely placement.

Khan and Azam (2017) propose effective strategies to gain a competitive edge or competitive advantage – namely; (i) benchmarking with other institutions in terms of quality of faculty, (ii) student competency, (iii) effective curriculum and (iv) timely placement. Lin (2019) gives evidence that engagement of key stakeholders with various activities of business school is critical to have a competitive edge.

Giraud, Bernard, and Trinchera (2019) pointed out that the pre-graduation median salary is the approximate market value of an average graduate of a business school and arrived as a result of calculating the standard deviations of the first and

current annual salaries. Domholt (2018) states that starting salary of the business graduate commensurate with job title, position, location, quantum of salary and bonus itself.

Giraud et al. (2019) pointed out that the pre-graduation median salary is the approximate market value of an average graduate of a business school. Ghasemaghaei, Kapoor, and Turel (2019) highlight the role of university ranking helps to determine the breadth of post graduate salary and job placement. Normally, alumni are attracted to jobs with higher salaries. This cycle keeps on changing depending upon the competency of the alumni.

According to Shenoy and Aithal (2016), there are changing approaches in campus placements by Multinational Companies (MNC) with the help of new futuristic models. The expectations of the business graduates and their parents are very high, particularly from an MNC placements perspective. Campus placement activities in Business Schools enable MNCs to choose the right candidate for the right job by matching individual profiles and screening them through a series of selection processes to assess content knowledge and other leadership skills.

Thus, from the literature, it can be inferred that timely placement, quality of internship, competitive edge of the business school, pre-graduation salary, post-graduation salary, and placement in MNCs appear to form part of placement records for an institution. This has been expressed in the following research question.

Research question 3: What are determinants of an impressive placement record of business schools?

2.3.4 GOVERNANCE

Governance of a business school is considered an important factor in recruiting a student. A recruiter's perception of governance of a business school includes various attributes like ethics, sustainability, conflict of interest, social responsibility, organizational structure, reporting relationships, and separation of ownership & control. In addition, factors like maintaining ethical standards while

performing the institutional activities and conducting the teaching and learning process are also considered as an essential part of the governance framework of an institution (Spender, 2016). Recruiters perceive that good governance helps in building relationships with all working staff and students, leading to performance standards. In addition, recruiters believe that governance factors define the organisation structure and associated responsibilities in managing the organisations, and hence reflect in a graduate being taught at the highest standards. Governance structures, as they permeate throughout the organisation, reflect an organized and systematic framework of work culture and management practice in the business school, culminating in educational learning provided to graduates at the highest standards. Moreover, the structured organization culture enables the learners and teachers to establish effective coordination and provide quality learning, through well-defined ownership and control exercised by the business school. Further, recruiters also feel that good governance structure helps in enhancing the performance level of academic and students. Hence, these factors are considered by the students while selecting a business school for their study (Zuckweiler, Rosacker, & Hayes, 2016).

The researcher identified the following attributes in the domain of governance that recruiters and students see essential.

- i. Organisational structure
- ii. Reporting relationship
- iii. Dual subordination
- iv. Conflict of interest
- v. Social diversity

Bryan-Kjær (2017) indicated that corporate sustainability is assured in the way organisational structure is established. This principle applies to business schools and the organisational structure in business schools, with reference to their governance aspects – in particular, growth. In terms of growth, business schools consider new programs to address the market demand, workforce assessment, infrastructure

development and curriculum development & delivery to be growth elements so that they can stay abreast of their respective domains. Chi6n, Charles, and Morales (2019) highlight that business schools require appropriate processes so that improvements can be made in the areas of growth, leading to knowledge development and sharing. In order to attain these, a well-developed organisational culture, structure, and technological infrastructure is required. Hence, the governance of business schools should incorporate individuals who can guide the institution in these matters appropriately. In this context, the organisational structure is seen as an important element by both students and recruiters, as the structure can directly contribute to the branding image of an institution.

Andriof, Waddock, Husted, Rahman, and Ingram (2005) identified that stakeholder engagement in terms of relationship management, communication, reporting and performance plays an important role in determining the reporting relationship between business and society. Herremans, Nazari, and Mahmoudian (2016) describe that reporting relationships within the governance framework is an essential feature of how communication flows between the operational and executive powers. This communication is essential in realising organisational vision and goals, and should be transparent.

Dunfee and Robertson (1988) state that any business must solve the problems of conflicts of interest as a total system of organisation structure and various reporting relationships. The decision maker must evaluate how management with enormous practical discretionary powers would resolve conflicts without sacrificing ethical practices. Flier (2017) observe that conflict of interest among educational institutions could be addressed with the help of disciplines such as philosophy, psychology, law, business and public policy so that appropriate resolution frameworks can be drawn to meet the institution's needs, and state that any resolution framework should be coherent and objective.

To understand diversity, Carter and Phillips (2017) introduced 3 prominent frameworks – social categorization, similarity-attraction and information and

decision-making. Supplementing this view, Alas and Mousa (2016) stressed that business schools need to integrate academic components in the light of social trends in order to prepare students for an era full diversity. In the context of brand image, recruiters and students see social diversity as accommodating varying needs of the society so that an institution does not become polarised.

Thus, the literature review provided an initial set of attributes that could be considered within the governance framework as both students and recruiters pay attention to governance while choosing an institution for study and recruitment respectively. The various attributes of governance as evidenced by the literature include separation of ownership and control, organisational structure, reporting relationship, dual subordination, conflict of interest, social diversity, and ethical practices. These form the following research question:

Research question 4: What governance factors contribute to the brand image of institution from a recruiter's perspective?

2.3.5 REPUTATION OF THE BUSINESS SCHOOL

Ranking helps to enhance the popularity of a business school in achieving its desired goal and image. If students of B-schools are performing well, the image and reputation of the business school increases and becomes a known educational organisation that provides quality learning to students (Panda et al., 2019). As a result, recruiters hire students from such high-ranking B-schools to increase the productivity and performance of the organisations they represent. Further, a business school's credibility is enhanced by attaining professional accreditation as these accreditations demand high quality teaching underpinned by students using technology, research and other modes of teaching and learning. This in turn improves the teaching and learning practices and recruiters prefer such institutions. Additionally, quality business schools also organise seminars and workshops to enhance additional skills and abilities of their students, and thus graduates from these schools perform well in competitive examinations, increasing the confidence of recruiters to hire them (Hemsley-Brown, Melewar, Nguyen, & Wilson, 2016).

Hence, the high-quality reputation of business schools supported by accreditations is an essential factor for recruiters to consider their students for employment.

In this context, the researcher identified the following variables contributing to the reputation factors of a business school. These are discussed below.

- i. Government accreditations
- ii. Accreditation by professional associations
- iii. Quality assurance
- iv. Teaching methods
- v. Digital learning devices
- vi. Research quality

Zhao and Ferran (2016) state that accreditations provide a quality stamp to institutions through an independent verification process so that students, parents, employers and governments can feel comforted in terms of the quality parameters an institution holds. In the quality processes used during accreditations, the needs of these stakeholders are accounted for, and verified by these independent quality agencies, leading to quality assurances. Kelchen (2017) states that the importance of vision, mission and goals of the business school must align with the curriculum approved by concerned authorities, and quality agencies check for these alignments. These verification processes ensure that the curriculum meets needs of various stakeholders and is hence considered to be relevant.

Prasad, Segarra, and Villanueva (2019) claim that academics also appreciate accreditation stamps of business schools as these increase their own values. Accreditations such as the AACSB enhance the branding image of an institution, and therefore influence academics taking up employment with these institutions. Similar sentiments were expressed by Chang, Lin, and Tu (2016) who view the accreditation certificates from professional associations like AACSB as independent proof of educational quality and directly related to the competitiveness of graduates in a global market.

Chibuike (2018) stated that quality assurance in business education is essential to meet the changing needs of the workplace as quality assurance processes generally look for currency and relevance of the curriculum. This in turn prepares a business graduate to adapt from the school culture to an organisational culture seamlessly as there is no significant additional requirement for training to bring the graduates to the organisational level. Akoto and Akoto (2018) indicate that quality assurance of business management education should ensure well-organised and well-developed quality assurance systems assisted by policies, procedures and practices which will be recognised in the ranking by media and global accreditation bodies to gain visibility by business schools.

Ahmad, Bakar, and Ahmad (2018) discussed several innovative teaching methods while evaluating the teaching methods of educational institutions and concluded that methods such as business simulations can induct a wide experience to be gained by the teachers and students cost effectively. Goodpaster (2017) highlighted that teaching and learning ethics by the case method is very well preferred to connect ethical theory with management education. These methodological inclusions help to fill the intellectual and cultural gap in teaching field of business education. Accrediting agencies such as the AACSB look for teaching innovations while evaluating teaching in business schools.

McCoy (2016) recommended the use of digital devices for students majoring in marketing, business, law, education and agriculture during daily classes for non-class activities. This would help to sharpen a student's knowledge in the use of digital devices to a given context as many industries are now information focussed and digital devices play a key role indecision making using information. Colbert, Yee, and George (2016) identified that workforce of the future is reliant on information accessed through digital devices, and business graduates should be conversant in using digital devices for learning and communication. The digital infrastructure is an essential component in assessing the quality of a business school for students, recruiters and quality agencies.

Ryazanova, McNamara, and Aguinis (2017) insist that research performance is a quality signal in international labour markets. To justify this notion, they argue that the visibility of business schools is known worldwide through a global research performance ranking system. Kashif and Cheewakrakokbit (2018) support this notion by stating that the perceived quality of a business school is derived from the establishment of research centres where international scholars congregate to develop international curricula coupled with research content.

Therefore, it can be seen from the above discussion that of the reputation of a business school is determined by factors such as rankings, government accreditations, accreditation by professional associations, quality assurance, innovative teaching methodologies employed, availability and exposure to quality digital learning devices and quality research. These factors for the following research question that would be tested in this study in the chosen context:

Research question 5: How significant is professional accreditation of business schools to recruiters in determining the brand image of a business school?

2.3.6 FACULTY COMPETENCY

The qualification experience of the faculty member and their research work and publication mainly define the competences levels of the faculty. For example, if an institution hires qualified employees, then their students attain positive results Sheetal and Dehury (2020). The publications and patents acquired by qualified faculty help the learners to gain more knowledge in their domain expertise and develop more understanding. The increased number of patents and publications acquired by the students and teachers of business schools show the high levels of talents attained by students and enhances the brand image of a business school. As a result, the business school becomes a reputed organization in the educational industry and attracts the attention of recruiters increasingly. The student-faculty ratio also plays a major role in determining the knowledge levels of the students (Zhao & Ferran, 2016). If the student-faculty ratio is less, the teacher will be able to pay more attention to the educational needs of students. However, if the student-faculty ratio

is more, the teachers may not be able to pay attention or provide personalized guidance to students. It will impact student learning negatively. Hence the recruiters prefer to choose business schools where the student-teacher ratio is optimal as students are able to receive attention from their teachers in order to attain higher levels of quality in their study.

These factors have been identified as contributing factors in Faculty Competency and discussed below.

- i. Qualification of faculty
- ii. Faculty experience
- iii. Research quality
- iv. Publications
- v. Patents
- vi. Student-faculty ratio

Horn, Reinert, Jang, and Zinth (2016) focused on faculty qualification policies and strategies relevant to various programs of business school and found that PhD qualification in business administration is a relevant approach to validate credential of faculty. Frandsen et al. (2018) digressed from this view and suggested that business schools should follow an informal approach of validating faculty qualifications to align with the branding of the Business Schools as it might be difficult to obtain PhD level qualifications in emerging areas of Business. They state that the branding of academic institutions is increasingly recognised by the qualifications, certifications and industry experiences an academic faculty acquires and these should be considered while determining the faculty qualifications and aligned with the various activities of the faculty position.

Venkat (2019) assessed the competencies for business school faculty while analysing the key factors that are responsible for the appointment of business school faculty and emphasised that the various levels of experience as well as seniority and age as a key competency required for a faculty. Kushwaha, Mahajan, Attri, and Misra (2020) included the attitude of a business faculty towards learning management

system implementation in determining experience as attitude towards technology driven learning is necessary to enrich active learning experiences.

Kim and Choi (2017) found that the influence of creative personality and working environment on the research productivity of business school faculty as an indicator of the research performance of a faculty. The support of colleagues also plays an important role in business schools. Thus, support from colleagues is believed to foster research outcome, leading to the performance of exceptional quality. Prasad et al. (2019) note that research activities are essential components in the professional accreditations of business schools and as a result faculty are motivated to generate quality research contributing to the improvement of branding of a business school.

Day and Porter (2018) pointed out the concept of lacerations of the soul. This situation is due to rejection-sensitive business school faculty as a result of lack of perceived publication performance. Extensive psychological research shows that the selection, promotion and recognition are the driving forces for faculty publications. Hong and Honig (2016) studied the importance of both human capital and external legitimacy on faculty compensation and concluded that these cannot be ignored as business school faculty salaries are influenced by quality publications.

C. Y. Huang (2018) indicated the output of university industry collaboration is evidenced by patents that provide opportunities for faculty and students to develop intellectual properties leading commercial purposes, thus enhancing brand image of an institution, and concluded that the intellectual property creation is dependent upon factors such as the background, motivation and cooperation between the faculty members. Boh, De-Haan, and Strom (2016) found that university technology transfers are occurring due to invention of utility patents created by experts, faculty, businesspeople, entrepreneurs, students and other alumni volunteers and these enhance the brand image of a business school.

In a changing global marketplace, business school accreditation assumes added importance from the point of student-faculty ratio. To better manage the

internal check process and deal with resistance to change from faculty, a strong student-faculty ratio is required to build a strong teaching and research environment (Zhao & Ferran, 2016). P. Aithal (2016) highlighted that research productivity in top business schools contribute to the choice of selection as student aspirants choose a top-ranking business school. In this connection, placement and student-faculty ratio play an important role.

Thus, from the discussion above, it can be inferred that qualification of faculty, faculty experience, research quality, publications, patents and student-faculty ratio contribute to the competency of faculty in business schools and in turn this contribution influence the brand image. Research question 6 address these factors.

Research question 6: What are the pivotal factors for determining faculty competency leading to the brand image of a business school?

2.3.7 INFRASTRUCTURE

Brand image of business schools are also enhanced by infrastructural amenities such as the classrooms, library and other facilities so as to facilitate the learning interest of students. It appears that infrastructure is a key factor in students choosing an institution. Business schools that have multi-story buildings, air-conditioned classrooms and that provide advanced technologies for teaching and learning processes are attracted to the students. In addition to students, recruiters also appreciate good infrastructure provision due to the perception that good infrastructure enable students to learn effectively leading towards their professional ability. Infrastructure, in this context, plays a crucial value addition in addition to faculty and curriculum Murthy and Kumar (2017).

Infrastructure also increases the expectations of the shareholders from private business schools that they will be providing efficient professionals to the business world. As a result, business schools that are having good infrastructure facilities also provide modern hardware and software technologies, hire qualified and experienced faculty so that the students are enriched with high-quality learning and knowledge. Further, good infrastructure facilities enable students to conduct

research activities that are essential for displaying managerial qualities in the corporate world.

Within the context of infrastructure, location is also essential. The location of a business school determines the accessibility, experience, and quality of life and these highly influence the accessibility of the learners to other facilities.

Support staff is also part of the infrastructure, as support services such as security and library staff provide a positive influence in the choice of business schools by students. A good quality support staff familiar with various parts of the institution and associated procedures provide an environment in which students feel valued.

The association of business schools with Centres of Excellence (CoE) also influence students' preferences in the selection of business schools (Minocha et al., 2017). The CoEs help in meeting the knowledge gaps experienced by the educational institution, bridge the skill gap by introducing new technologies. It helps in improving the teaching quality of the faculty as the CoEs provide valuable insights into emerging domains. As a result, the faculty are able to gain valuable knowledge and transfer this knowledge to the students, thus enabling students to be abreast in emerging fields. This is an added attraction to recruiters as there is an expectation that business graduates are future focussed in order for organisations to be competitive in the market. These [infrastructure] factors highly influence a recruiter's perception of the business school brand.

These attributed have been discussed below leading to the seventh research question.

- i. Location of the business school
- ii. Resources
- iii. Building
- iv. IT infrastructure
- v. Centres of excellence

According to Hornsby (2017), location is a key ingredient in a business school's infrastructure as location has a link to the entrepreneur ecosystem. An entrepreneurship ecosystem coupled with placement market can effectively bring together appropriate stakeholders of the business school. The influence of a business school location's and faculty quality on students' performance is very much vital to provide an effective learning environment (Akpomudjere, 2020). Recruiters select a business school based on its location as the location is a primary factor in realising job opportunities. The main reason for location as a component of selection hinges on the fact that graduates from a specific location understand the local market dynamics and hence will be effective in that location.

Aversa, Haefliger, and Reza (2017) state that the location of business school contributes to five key elements, namely, men, machines, methods, materials and money. These five elements are essential to maintain a school's competitive advantage along with disruptive technology-based business models. The combination of these five elements and innovative business models enable business schools to expand their portfolio of resources, and this is seen essential in attracting new student markets. Lozano, Bofarull, Waddock, and Prat-i-Pubill (2020) emphasis that rankings are influenced by availability of resources in business schools, as these are correlated with the reputation and the school's business, thus influencing their brand image.

Molinari and Huonker (2010) investigated intensive student engagement in the classroom of business schools and found that the primary infrastructure namely, a business school's building ensured student's engagement. Reidsema, Kavanagh, Hadgraft, and Smith (2017) found that flipped classrooms contributing to rich learning environments in classrooms and workplaces, and universities globally deliver academic development principally around the flipped classrooms, leading to user friendly environments to both faculty and students.

Shebeko (2016) introduced an innovative infrastructure of scientific industrial cluster for business schools, mainly focussing on the practice of innovation with the

help of information systems. The main purpose of this infrastructure was to develop creative cluster to culminate in technology parks, ERP, and 'start-up' movement. The IT based infrastructure served as the backbone in realising this concept. Similarly, Nisula and Pekkola (2019) introduced an ERP based business learning environment in business learning. These models highlight the necessity of strong infrastructure to improve the brand images of business schools.

de Zeeuw (2019) explains how management innovation can be successfully transferred from explorative centres of excellence to exploitative business units. There is a common agreement in literature that organizing innovation centres will lead to a distinctive edge over competitors. A. Aithal and Aithal (2018) highlighted how Wharton Business School asserted their world leading position by establishing 33 research centres with 235 faculty members and 96,000 alumni.

Therefore, it can be inferred that infrastructure is a main contributor in lifting the brand image of a business school and influences recruiters to favourably consider graduates of these schools as there is a perception that graduates of such schools receive advanced knowledge, training and skills. This notion forms the basis of the following research question:

Research question 7: How does infrastructure influence the brand image of a business school?

2.3.8 EMOTIONAL FACTORS

Emotional factors also play a key role in determining the brand image of a business school. There is rising interest among researchers to investigate the rational and emotional factors of customer satisfaction and business school brand loyalty Elsässer and Wirtz (2017) and this different to that of consumer branding. The various variables influence emotional factors of brand image of a business school include the following.

- i. Self-respect of the student
- ii. Secured employability

- iii. Sense of fulfillment
- iv. Work-life balance
- v. Emotional connections

Ciulla (2020) indicates that the self-respect of students reflects on the business ethics taught and practised. Self-respect is a surrogate for ethics in relationship, students' judgement in rejecting wrongdoing, offering novel solutions in an ethical manner (especially where medical technologies may be involved). These activities where self-judgement plays a crucial component appear to enhance the brand image of the business school as recruiters believe that students employed would uphold the ethical behaviour of the organisation. Adhering to the principles of self-respect and honour confers a sense of belonging to the brand image of an institution (Goldson, 2018).

Leopold and Reilly (2019) created a pathway to secured employability in a business school by developing professional practices through collaboration. The pathway provided students with a practical learning culminating in employability, facilitated by an employability office within a business school. Echoing similar sentiments, as a part of networking behaviour, Batistic and Tymon (2017) introduced graduate employability as a social capital perspective for students who found secured jobs via networking.

Troedson and Dashwood (2019) found status, personal factors of self-efficacy, preparedness and insights to form part of satisfaction from a business degree. Retamosa, Millán, and Moital (2019) highlighted the significant differences in brand equity perceptions across different degrees, determined by students loyalty level that vary across different degrees and established that the type of degree predicts different levels of satisfaction by students from a brand equity perspective.

Young, Frazer, Weaven, Roussety, and Thaichon (2019) highlighted the need for work-life balance in any business situation including small business and identified flexibility in work conditions to be crucial. Dizaho, Salleh, and Abdullah (2017) arrived at a pathway to achieve work-life balance through flexible work schedules and

arrangements. They concluded that the work-life balance is the degree to which an individual is evenly occupied and evenly satisfied with work role and family role.

Dass, Popli, Sarkar, Sarkar, and Vinay (2020) examined psychological mechanism of a loved and trusted business school brand and concluded that brand experience, brand love and brand trust are interconnected emotional factors leading to the determination of the brand image of a business school expressed by alumnus. Skrzypek, Diebold, Kim, and Krause (2019) indicated that mentoring connections between student and alumni are time consuming and emotionally demanding. Alumni mentors may be in the best position to make emotional connections among the students' population.

These emotional factors form the following research question:

Research question 8: What is the role of emotional factors in creating a brand value of a business school?

2.4 CONCLUSION

This chapter has provided a discussion on eight constructs influencing the brand image of a business school from recruiters' perspective. The chapter culminated with a conceptual model with specific variables and constructs, while also positing eight specific research questions which are considered as the research problems from the thesis. The ensuing chapter will provide discussion on a suitable research methodological framework to validate the conceptual model. This will also deal with research design, profile of respondents, sample size and collection of data.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

The previous chapter gave an insight into the review of literature culminating in a set of eight research questions postulated into a conceptual research framework. It presented a synthesis of the overall literature available on this topic, from secondary sources offered in indexed journals of ISI Thomson Clarivate Analytics and ABDC. This chapter discusses the research approach required to answer the eight research questions in a suitable manner. This chapter deals with the suitability of the research methodology to ascertain through a review of available and appropriate methodologies available to the researcher and includes an overview of research philosophies, research strategies, questionnaire design approaches, measurement scales, population, sample size considerations, profile of respondents, pilot study tactics, and ethical consideration.

3.2 Research Methodological Consideration

The research methodology of this study is based on the information provided in the Saunder's Research Onion (2009). The Saunder's model provides details of methodological considerations for research approaches to suit a wide variety of settings and depicts the variations of approaches using six layers of concentric rings, with the variations placed on different segments of the rings to illustrate the research continuum. The research onion is a good model to start from the philosophy leading through the data handling, thus providing an ability to think top-down. In this study, a top-down approach was used to arrive at the research approach as the researcher felt comfortable in narrowing the approach starting from philosophy through to execution.

When the Research Onion is examined from left to right, philosophy is kept at the left as the outermost ring and gradually converged into the data elements at the kernel ring level. This is important for a study of this nature as data elements are uncovered

only after the determination of the approach. Further, in the context of this study, due to the nature of the study where brand image aspects are determined, the data consideration involves the inclusion and exclusion criteria, population and sampling issues and the data collection aspects. Therefore, it was evident that the context is dependent upon business schools – a very specific type of organisation – and data elements must be carefully constructed. So, it was decided that the available literature is adequate to derive the conceptual model, and the domain is easily understood due to its maturity and the researcher’s working knowledge. Therefore, the quantitative components may be adequate in answering the research questions. In addition, due to the nature of the study, it was decided that only cross-sectional data would be collected.

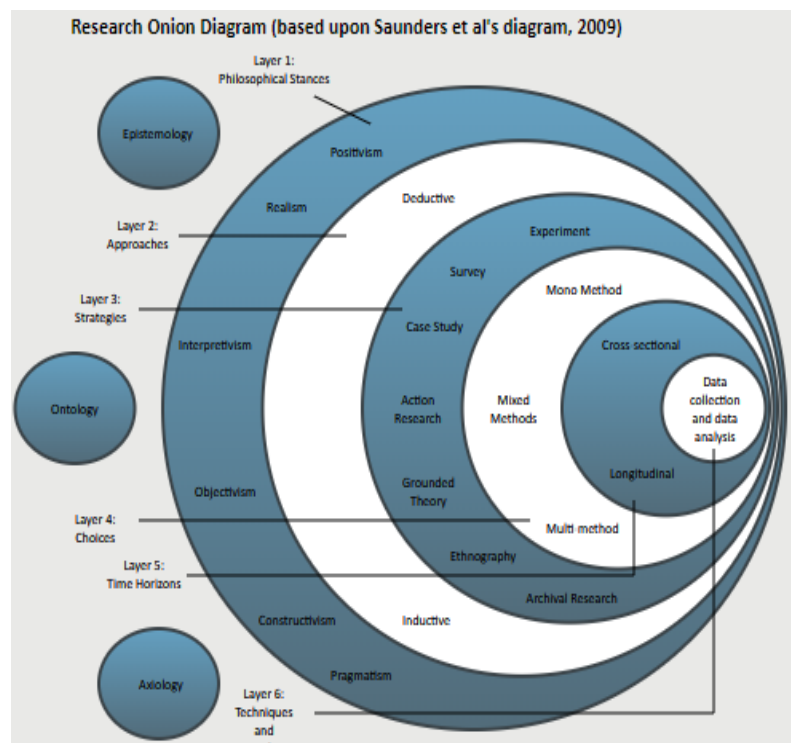


Figure 1 Research Onion Model

Thus, in terms of the Research Onion Model, the researcher was able to determine that quantitative data needed to be collected as a cross sectional point, (the data collection would have one single point of collection without recurrence of collection points). These considerations provided the scope for the choice of an appropriate

research methodology. In this context, the first layer of the Onion, the Philosophical Stances, is discussed below.

3.3 Research philosophy

Research philosophy is a range of presumptions and beliefs about improving or adding to knowledge in a particular field when embarking on research in that field (Collis & Hussey 2013; Saunders et al. 2016; White & Rayner 2014). Research philosophy is a substantial part of the research process because it may open a researcher's mind to other possibilities, which may in turn result in both an improvement in his/her research skills and an improvement in his/her self-confidence (Holden & Lynch, 2004). According to Saunders, Lewis, and Thornhill (2007), business and management studies can be divided into key philosophical categories: 'positivism, critical realism, interpretivism, postmodernism and pragmatism'. A researcher, however, also must critically appraise the appropriateness and suitability of a research philosophy to match the problem on hand, and in this regard, Saunders et al. (2007) state that no particular recommendations resolve a proper research philosophy; it depends on the research questions, research objectives and methods. Hence, each philosophy is discussed to assess the applicability and suitability for the current study.

3.3.1 Positivism philosophy

Positivism is a philosophical position that identifies only quantitatively verifiable suggestions as meaningful (Goldenberg 2006; Sarantakos 2013; Saunders et al. 2016). Auguste Comte developed the positivist philosophy by outlining this philosophy in his publications in the 1830s and the early 1840s (Remenyi et al. 1998). Positivist philosophy is highly focused on quantitative, objective, scientific, experimentalist, and traditionalist research (Collis & Hussey 2013; Remenyi et al. 1998; Sarantakos 2013; Saunders et al. 2016). Typical methods for studies that use the positivist philosophy include deductive large samples, and measurement (Saunders et al. 2016). Positivist philosophy may be suitable for the quantitative part of this study.

3.3.2 Critical realism philosophy

Critical realism philosophy is a systematic method based on knowledge derived from the real world (objective) instead of human thoughts (subjective) (Mingers et al. 2013; Saunders et al. 2016). In other words, it is the idea that the world cannot be accessed directly but only obliquely and mentally (Sarantakos 2013). This philosophy was founded by the scholar Roy Bhaskar in the 1970s (Bhaskar 2008; Mingers et al. 2013; Yeung 1997). The critical realist philosophy is suitable for studies that have to fit either qualitative or quantitative subject matter (Saunders et al. 2016). This suggests that critical realism is also inappropriate for meeting the research objectives of the present study due to its focus on a single approach in each study instead of possible dual approaches.

3.3.3 Interpretivism philosophy

Interpretivism is a philosophical position that emphasises human differences in regard to subjective meanings, cultural backgrounds, causality, impressions of social worlds, and incorporation of active processes in common settings (Sarantakos 2013; Saunders et al. 2016). Interpretivism emphasises interpretations, stories, narratives, and perceptions (Saunders et al. 2016). This philosophy 'has its roots in *verstehen* (understanding) of social life, which is connected with the work of Max Weber (1864-1920), Wilhelm Dilthey (1833-1911), and the Neo-Kantian philosophers Wilhelm Windelband (1848-1915) and Heinrich Rickert (1863-1936)' (Sarantakos 2013, p. 40). Interpretivism is relevant for studies that are inductive, include subjective meanings, have small samples, and involve qualitative in-depth investigation (Goulding 1998; Sarantakos 2013; Saunders et al. 2016). Therefore, this philosophy does not fit the current study because of its sole emphasis on qualitative meanings.

3.3.4 Postmodernism philosophy

The philosophy of 'postmodernism' highlights socially constructed themes and language roles that sustain principal facts through powerful relations (Calás 2003; Saunders et al. 2016). It emphasises absences, silences and oppressed/repressed

meanings, voices, and interpretations (Saunders et al. 2016). Postmodernism and interpretivism are similar in terms of a focus on in-depth qualitative investigation (Saunders et al. 2016). Postmodernism was first mentioned in the literature in the early 1930s and 1940s (Dickens & Fontana 2015). Typical approaches to research that use this philosophy are also inductive, include subjective meanings, and involve in-depth qualitative investigation (Atkinson 2002; Saunders et al. 2016). Hence, the postmodernist philosophy is not applicable to the research objectives of the current study, which focuses on mixed-methods design.

3.3.5 Pragmatism philosophy

Pragmatism philosophy highlights the concepts and methods that support the research questions of the current study (Saunders et al. 2016). The pragmatist philosophy is suitable for a range of methods; for example, mixed, multiple, qualitative, quantitative, and action research (Creswell 2014; Saunders et al. 2016; Wahyuni 2012). John Dewey developed philosophical pragmatism of human action, comprising reflective thinking and experiential learning (Hickman 1990; Miettinen 2000; Sleeper 1986). This suggests that this philosophy is applicable and suitable for the research objectives of the current study, which focuses on mixed-methods design. In addition, pragmatist philosophy highlights the mixing of qualitative and quantitative data in one research project to enable them to better comprehend social reality through the experiences, personal meanings, and perspectives that individuals attach to the social world (Gray 2013; Saunders et al. 2016; Wahyuni 2012). Furthermore, pragmatist research philosophy can underpin the practice of beginning with a research question to determine the research framework (Johnson & Christensen 2014; Wahyuni 2012). It provides the best method to answer the research question by following the research problem (Johnson & Christensen 2014; Saunders et al. 2016). Pragmatist philosophy seeks to meet both objective and subjective meanings, values and facts, precise and rigorous knowledge and various contextual experiences through considering theories, concepts, ideas, hypotheses

and research outcomes (Saunders et al. 2016). Thus, for these reasons, this study used a pragmatist approach as the primary underlying research philosophy.

Approach in data collection and analyses treatment:

The second layer of the Research Onion is about the approach taken. This mainly deals with whether the researcher is strategically orienting the study towards a deductive approach or an inductive approach. The strategic approach is essential as this approach will provide details on how and what type of data are going to be collected to answer the research questions. Further, it is essential to determine how data will be analysed – deductive or inductive. A deductive approach is formative in the sense that it draws its constructs from theories, develops testable propositions and follows rigorous data analyses procedures to provide scientific evidence. On the other hand, an inductive approach involves specific objectives to be investigated through qualitative data and involves a subjective inference. These two approaches are on opposite ends of the spectrum and require varying treatments to the design elements.

In deciding on the chosen strategic approach, a researcher needs to consider two key assumptions. The first assumption is that, despite the plethora of available literature on the subject, the researcher has to determine whether it is possible to answer the research questions only through these secondary data. If this approach is taken, then the researcher must also be confident that the available secondary data will fit the chosen context, as there is a possible risk that the secondary data may be dated and may not address specific context related factors. The second assumption is changing business environments and user contexts. In the chosen context, brand images are influenced by user contexts and how they perceive the brand as emotional factors also influence user perceptions, and these factors are bound to change. Hence, it was felt that a clear understanding of the context is essential prior to answering the research questions, drawn from the extant literature. Thus, at this stage, the researcher decided to orient towards a deductive approach.

Strategic choice of research approaches:

The third layer of the Research Onion is about the approach taken in collecting data. A key consideration in any research design is the choice of research approaches as this indicates the orientation to the data collection strategies of the research. The approach can vary from experiment to archival research. In this study, the main proposition is to examine the creation of brand image in business schools and how recruiters perceive this brand image while recruiting students from business schools.

As indicated earlier, the researcher was able to identify eight specific constructs leading to the brand image considerations through surveying the literature. Therefore, this study required additional data to verify the generalisability of the assumptions made in developing the eight constructs. Hence, the study is more aligned with a survey type approach where quantitative data are used to make the assertion.

A detailed look also makes sense. While the main premise of the study is to determine factors that influence brand image of business schools, the context is interesting as business schools in the chosen setting is different to that of Western Countries. The variability in admission, in their elite status, admission procedures and subjects taught make the context interesting. For example, in the Indian business school domain, some business schools teach technology and linguistics, as the market demand is the main focus. In some other business schools, students are specifically prepared for certain types of employment. Therefore, to accommodate these variabilities, the study design has to be generic and devoid of specific organisational related investigations and biases. Hence, case study methodology was not suitable. The variables of the study span from perception to emotional factors, thus making it difficult to normalise qualitative primary data. Further, the literature provided adequate details in developing the constructs, so there was limited need for exploration to understand the domain. Due to these subtle differences, the researcher felt that the study was beyond a qualitative spectrum. Hence, the

researcher chose a survey approach to provide evidence in answering the research questions.

Method Treatment:

The next layer of the onion focuses on the data collection method treatment, whether the method would involve a mono-method or a mixed method. As indicated earlier, the nature of the study warrants generalisability rather than an understanding of the domain, and it was therefore felt that in order to generalise the outcome and assert hypotheses, a quantitative component was adequate. Therefore, it was imperative that the study required a quantitative approach.

A further consideration that required attention was what type of quantitative method was suitable for this study to answer the research questions. While Saunder's Onion provides some indication as to what type of methodology treatment can be utilised, it does not go into depth as to what this can be. Within the quantitative method, there are various options (such as experimental, survey, and field testing). Further, the options can be employed at one cross-sectional point or longitudinally. In this study, taking into consideration the study period available and the purpose of the research, the researcher chose to use a single point cross-sectional survey approach. The main reason for this was to accommodate any refinement to the conceptual model identified, and then to test the hypotheses as formulated from literature review.

In summary, using the Research Onion as suggested by Saunders (2009), this study has arrived at the following table with focus on data culminating in a philosophy:

Table 1: Table on research philosophy

Data collection consideration	Quantitative exploration to assert hypotheses
Data collection points	Single point
Methodological orientation	Mono method
Strategic orientation	Survey type
Approaches assumed	Deduction
Philosophical stance	Pragmatist
Summary	Single point survey

3.4 Research Design

Research design is a crucial creative activity to guide a research idea to its completion. In designing the study, consideration is normally provided to elements such as the duration of various data collection activities, the inclusion and exclusion criteria of samples, the procedures adopted for collecting and recording data and in keeping participants informed of the overall procedure. These are discussed below so as to arrive at a research design that can guide this study.

How many data points?

In the context of this study, data are crucial for the following specific reasons:

1. In order to understand the domain, the researcher was able to extract key constructs influencing the brand image perceptions from the literature. However, this required validation due to various changes in the chosen context, the nature of the business environment, changes occurring at the regulatory level and shift in the employment markets.

2. Such an understanding was gained through quantitative domains as the literature provided ample information leading to an understanding of the domain in which this study was situated. Hence, it was felt that the quantitative dimension would help to test the hypotheses. Therefore, the research design included provisions for a carefully considered quantitative approach.
3. The initial conceptual model was derived from extant literature, and the domain was a traditional educational setting. While the initial research questions were identified and an initial model was developed, in order to effectively address the research question using quantitative methodology, the researcher needed to develop clear hypotheses for testing. This involved some corrections to the original model developed from the literature.
4. The instrument for the survey had not emerged completely at the initial stages of conception and was deliberately deferred so that the survey instrument could be developed appropriately to coincide with the chosen context.

This allowed the researcher to properly converge on quantitative techniques using survey methods. In this type of research, participant selection is crucial, and the following points were considered by the researcher in determining the research design.

1. To identify suitable participants that would provide required information leading to the answers for the research questions asked in the study;
2. Once the participants were identified, to develop a recruitment strategy by considering how they would be approached;
3. To encapsulate the research questions into smaller sections in the survey instrument so that relevant answers and discussions could be facilitated;
4. To decide on the best strategy to conduct the quantitative study;

5. To decide on the type of quantitative study to be conducted;
6. To decide on the project issues;
7. To develop an appropriate consent form, participant information form and seeking in-principle support to recruit participants;
8. To articulate all these into an ethical application so that ethics approval could be obtained; and finally,
9. Preparing for the quantitative study.

In essence, the researcher identified that the knowledge gained through the literature survey enabled the development of the survey instrument in order to maximise the reliability of the quantitative study. In making this determination, the researcher followed guidelines provided by (Gururajan & Hafeez-Baig, 2014).

3.5 Protocols to ensure validity aspects of data collection

In this study, many aspects were provided with specific attention to ensure the validity of data collection procedures in order to maximise the quality of the research output. The primary data that were collected in this study were specific context-related issues and appropriate tools such as surveys were employed as suggested by (Hox & Boeije, 2005); (Cooper & Schindler, 2011) and (Koranteng, 2014). Secondary data sources used for this research included journal and other published reports following the recommendations of (Cooper & Schindler, 2011), (Zikmund, Babin, & Griffin, 2013) and (Koranteng, 2014).

In terms of population considerations, this study considered a two-stage approach: a target population to arrive at a larger cross section of possible participants, and a target population for actual data collection as recommended by prior studies (Bryman & Bell, 2007) and (Cooper & Schindler, 2011). The target population considered for this study adhered to the following guidelines:

1. the population is aware of various HR procedures with respect to staff skills, training needs, performance reviews and development activities. This is considered essential in contributing to brand image;
2. the population is conversant in English as the thesis is from an English-speaking institution and the examiners will be reading the thesis in English;
3. the population has a comprehensive and intricate knowledge of various recruitment approaches, matching employer needs with student skills; and
4. the population is aware of the nature of business schools and the variabilities among them in the chosen context.

Once these inclusion criteria were defined arbitrarily for the population, sampling issues were considered so that the research design for this study could be refined. In this study, considering the specific context in which the study was contextualised, it was felt that a purposive sampling was an appropriate method as suggested by (Tharenou, Donohue, & Cooper, 2007). Within this, this study employed a random sampling technique.

In terms of sampling size for the quantitative phase, the study considered a size of approximately 300-500 data samples to be adequate. The study identified eight specific independent variables influencing brand image and as per the central limit theorem, a sample size of 250 would be adequate to arrive at normal distribution of data. However, if a sampling error formula is used, the size requirement will be higher. In addition to this, prior studies examined indicated a return of 18-20 percent. Considering these factors, the researcher decided to collect 300-500 datasets in order to meet the threshold required for an effective study design. This consideration raised the question of adequacy for data analyses; hence, the design of this study also included a PLS-based application for quantitative data analyses so that data deficiency could be mitigated.

In addition to the sampling size determination, this study also examined the quality assurance of instruments used. As indicated earlier, the qualitative component was

planned to be conducted in four stages, so the supervisor and the researcher went through the questions to collect data and this procedure was considered adequate. In terms of the quantitative instrument, the research design considered a formal peer review of the instrument.

In summary, the research methodology adopted in this study was to ensure an appropriate and relevant research design was considered for this study. Hence, key aspects affecting the practical nature of the study were given importance in developing the research design.

3.6 Ethical considerations

Participation in this survey was voluntary. A thorough review of each potential participant's profile was carried out to ensure the suitability of the respondents. They were then briefed about the survey and the intent of the thesis. Care was taken to ensure that the individuals who completed this survey were able to provide information as accurately as possible (considering their qualified profiles). The time frame of the respondents' replies varied to accommodate individual needs. There were no restrictions on geography and gender. In all cases, anonymity of the respondent details was maintained so as to reduce the potential for bias.

In this thesis, the principles of research merit and integrity were carefully followed. Through a survey of the literature, contributions were made to the existing academic structure by highlighting research gaps in the brand image of business schools from recruiters' perspectives. A methodical literature review coupled with balanced questionnaire was administered in the area of brand image. The research questions were developed based on solid support of the research gap derived from past literature, along with meeting a focus group of experts in the area of brand image of the business school. This research was supervised by two supervisors – the Principal Supervisor and Associate Supervisor listed earlier in this thesis.

Further, matters such as maintaining confidentiality of the information were provided with due consideration as per Australian standards. Questions touching

upon the negative sentiments of the respondents were avoided. The presentation of questions was prepared with simple, concise and clear language. The aspect of cross-cultures and religions was respected.

3.6.1 Population

A broad spectrum of populations touching various domains within the business school in relation to placement was considered. In short, the following stakeholders were considered while choosing the population:

- a) The Management of the business school
- b) Faculty
- c) Corporate Relations
- d) Alumni
- e) Employers (Recruiters)

3.7 Profile of the respondents

The research survey was comprehensively covered with reference to the background of each respondents who were selected carefully depending upon their status within the institution from which they were drawn. In the questionnaire survey instrument, the age, gender, role and location of the respondents was included. Several high-ranking individuals in business schools, companies/multinationals and alumni responded to the questionnaire.

The survey catered to a broad spectrum of stakeholders. Stakeholders associated with business schools formed a part of the population. The population for the study primarily included recruiters/corporate organizations, university or business school corporate relations managers, alumni and faculty staff. Business school faculty refers to staff, full-time or part-time. Alumni included high-performing individuals in leading national and international companies. Business school stakeholders from all over the world were invited to participate, with no restriction on locational demography.

3.8 Questionnaire method

A questionnaire is designed and used for statistical analysis of the data collected from respondents. The main purpose of data analysis is to analyse the data with a view to formulate and test the hypothesis. The merits of a questionnaire include low cost, low intensity of workload to administer the survey tool, time effectiveness and the ability to standardise the questionnaire framework.

From the point of simplicity and compilation, a questionnaire plays a pivotal role in collecting the data from the respondents. In a large number of cases, close-ended questions are used. One of the demerits of the questionnaire is that the answers to the questions are limited to the knowledge and skills of the respondents.

Using a questionnaire method is practical as large amounts of information can be collected from many people within a short timeframe. The results of the questionnaire can be easily and quickly quantified with the help of statistical tools. This allows for the scientific analysis of data to make an objective judgement and assessment. It can also be used to compare and contrast data pertaining to past, present and future periods. The data analysed from the questionnaire can be used to build theory and models.

The questionnaire used in this study was divided into 5 distinctive divisions. The first section exposed the topic to the respondents and provided an explanation and rationale behind conducting the research study through this medium. The respondents were assured privacy and confidentiality of their information that was collected through the administration of the survey.

The second section covered the email details of the respondents.

The third section consisted of 48 questions covering the 8 independent variables. This was also followed by questions on outcome of the research which represent measurement of the dependent variable.

The fourth section dealt with the demographic factors of the respondents indicating age, gender, role and geographical location.

The fifth section ended with thanking the respondents for their participation.

3.9 Pilot Testing

Pilot testing can also be called a pilot study, pilot project or pilot experiment as a prelude to the main study. This study evaluates the feasibility, duration, cost, adverse events, and strengths of the questionnaire design for the successful completion of the main study. In this research study, the inputs provided by the pilot respondents were considered and suitably edited or modified for the main study. The pilot study is the gateway to the conduct of the main study to reach successful completion of quality research. The pilot study is selectively administered to a cross-section of respondents so that it is fully represented in the final study. Though it is an exploratory study, this helps to get an idea of the final outcome Thabane L, et.al. (2010). While administering the pilot study for this project, care was taken to ensure the data analysis was completed by ADANCO statistical package 2.0.1 (Structural Equation Model). 47 respondents participated under the supervision of the principal investigator.

3.10 Main study

After satisfactory administration of the pilot study, the main study was a vital point in this empirical research. While the purpose of the pilot study was to assess the basic literature and design of the questionnaire, an in-depth main study was conducted to examine the conceptual model along with formulation of hypotheses and testing the relationship with dependent variable. Before conducting the main study, it was ensured that all the inputs envisaged from the pilot study were incorporated into the questionnaire. Collection of accurate and reliable data was of paramount importance to the research methodology. This was necessary in lieu of using advanced statistical techniques for the data analysis.

3.10.1 Adequacy of Sample Size

The broad population of the survey included business school stakeholders from five continents. The questionnaire was sent to 2500 respondents by email and LinkedIn.

Out of 2500 respondents, 508 respondents filled the questionnaire. Out of 508, only **412** responses were found to be useful responses and simple random sampling method is used. The sample size was harmonized to meet the requirements of adequacy of sampling for this study. The email addresses and profiles were attained from business directories published on the university websites. The list of recruiters and alumni was obtained by researchers' contacts with universities and HR consultants. A thorough review was administered to confirm the strength of the background and profile of the respondents with due regard to relevancy. This process took considerable time to administer from the point of accuracy and reliability of data. Electronic sources were used for the circulation of the questionnaire with a view to achieve speedier and faster collection of the data.

The statistical package of ADANCO 2.0.1 structural equation model (SEM) was used to indicate that each relationship with the model was associated with a specific hypothesis. Conventional methods of investigating and interpreting the results of research data are intricate and uncertain. These are somewhat inflexible and assume that measurement occurs devoid of any error. In contrast, Structural Equation Model (SEM) under ADANCO is a powerful, flexible, and complete multivariate technique for investigating the relationships between measured variables and latent constructs (Suhr, 2008; MacCallum & Austin, 2000). It requires a model based on theory and research and is a suitable investigative tool that challenges the researcher to design and develop the research method in the right way. Structural equation modelling estimates multiple and interrelated dependencies in a single analysis, and this was one of the reasons that it was preferred in this study. Two types of variables were used: exogenous (independent) variables and an endogenous (dependent) variable. Direct relationships between the dependent variable and independent variables were revealed explicitly. The verification and confirmation of the hypothesis is performed to establish the occurrence of a causal relationship. Thus, the eight relationships identified matched with eight operational hypotheses. Besides this, analysis of segments was conducted and presented in this study to highlight the differences among demographic cohorts. The result of the main study was the backbone of this project, and was presented in the form of data analysis, findings, recommendations and conclusions documented in the next 2 chapters.

3.11 Conclusion

This chapter on research methodology dealt with various aspects of research design and methodology along with profile of respondents, population, primary and secondary sources of data and ethical considerations. It further described the questionnaire instrument design, data collection, sample size along with description on pilot and main study. The next chapter will present the data analysis consisting of reliability indicators, convergent validity, discriminant validity and prelude to structural equation model.

CHAPTER 4 – REFINEMENT TO THE CONCEPTUAL MODEL

4.1 Introduction

Chapter 3 provided details of research methodologies and established a suitable research methodology for this study. Prior to implementing the chosen methodology, it is imperative to review the conceptual framework in order to ensure the measurements are accurate and achievable. With this in mind, the conceptual model posited in the literature review chapter is refined in this chapter. This refinement will enable quantitative testing to be conducted which includes Structural Equation Model (SEM)

4.2 Research Questions and hypotheses

The literature review chapter identified eight research questions based on the available literature. These questions are:

Research question 1: How do business schools enhance their brand image through applied business knowledge provided to their graduates?

Research question 2: How do recruiters measure the quality of alumni based on performance?

Research question 3: What are determinants of an impressive placement record of business schools?

Research question 4: What governance factors contribute to the brand image of institution from a recruiter's perspective?

Research question 5: How significant is professional accreditation of business schools to recruiters in determining the brand image of a business school?

Research question 6: What are the pivotal factors for determining faculty competency leading to the brand image of a business school?

Research question 7: How does infrastructure influence the brand image of a business school?

Research question 8: What is the role of emotional factors in creating a brand value of a business school?

The questions above pertain to the eight domains of literature this study investigated. The investigation identified several constructs and associated attributes pertaining to the study domain – namely; expectation of recruiters, alumni quality, placement record, governance, reputation, faculty competency, infrastructure and emotional factors. Further, the literature review provided evidence that these factors are indeed reliable and that it was possible to develop one-directional hypotheses.

In any quantitative research, the hypothesis highlights the causal relationship with due importance to the concept of significance. The hypotheses were formulated from objectives of the research study. The objectives of the research study were developed on the basis of research questions and problems. The research questions and problems were derived from research gaps identified in past literature.

The first construct examined in this study was recruiters' expectations. In this context, the literature review examined the level of applied business knowledge and its significance for the business school to enhance its brand image among the recruiters. This examination answered the research objective that the level of applied business knowledge acquired by students in the business school as an important yardstick for recruiters. Based on this, the corresponding hypothesis is:

Hypothesis 1:

A recruiter's expectation of a student's applied business knowledge is significant in determining the brand image of a business school.

In terms of alumni quality, this study explored how recruiters measure the quality of alumni of a business school and corresponding effect on the brand image. This exploration was conducted to evaluate the quality of the alumni of the business school which is reflected in the day-to-day performance of the alumni and hence the

brand image. The purpose of developing this objective was to establish that the performance of the alumni will enhance the reputation of the Business School and which will subsequently give recruiters confidence in employing these graduates. These notions have been encapsulated in the following hypothesis.

Hypothesis 2:

The quality of alumni demonstrated in day-to-day performance has a significant influence on the brand image of the business school.

The third construct examined in this study was the placement record of the Business School. In this context, the literature reviewed the essential features that determine an impressive placement record. The objective of such an exploration was to examine the influence of the Business School in their students receiving placements in high profile Fortune 500 companies, as this indicates the quality of the Business education. This has resulted in the following hypothesis.

Hypothesis 3:

The placement record with high profile Fortune 500 companies has a significant influence on the brand image of the business school.

The fourth construct – governance – was explored in the literature with a view to examining the perceptions of recruiters and the associated influence in recruiting graduates based on this perception. Within this context, this study examined the ethical practices and Corporate Social Responsibilities as part of the Governance framework. The main objective of such an exploration was to determine whether ethical practices were considered to be a valuable indicator for the corporate image of the business school. In this regard, the following hypothesis was formulated for testing.

Hypothesis 4:

The governance structure of a business school has a significant influence on the brand image.

The construct reputation of the business school was the fifth construct examined in this study. The literature indicated that recruiters consider good quality assurance procedures to be a significant factor in assuring graduate quality. In addition to these internal assurance factors, external accreditations such as AACSB, EQUIS, AMBA & ABEST21 also leverage the brand image of the business school. Hence, the objective that quality assurance schemes of the business school demonstrated by internal and external accreditations improve the brand image of the business school is considered for testing through the following hypothesis.

Hypothesis 5:

Obtaining external accreditations has a significant influence on the brand image of a business school.

The construct faculty competency was discussed in the literature in length. The competency included many factors such as the qualification, communication ability, and research standing among others in determining the competency of a faculty. The main objective of including this construct is to test the proposition that the extent of educational qualification, experience, and research calibre of the faculty as a determinant of faculty competency. This culminated in the following hypothesis.

Hypothesis 6:

Faculty competency has a significant influence on the brand image of the business school.

In order to provide high-quality education, infrastructure is an essential ingredient. Without appropriate infrastructure, it will be difficult to provide a rich education experience. The literature identified buildings, libraries, classrooms with good communication facilities, and computer laboratories as some key infrastructural elements determining the quality of education. This has raised the question 'Does infrastructure play a significant role in building brand image of the business school?' as universities also offer online education. The objective that factors such as location,

resources and technology determine the brand image of business school is tested through the following hypothesis.

Hypothesis 7:

The infrastructure of a business school has a significant influence on the brand image of the business school.

The last construct was emotional factors and, in this study, includes attributes such as fulfilment, self-respect, work life balance, and emotional connections with peers and teachers. In this study, this is investigated as this construct appears to play a crucial role in determining the overall make-up of a graduate. The proposition that emotional factors of a stakeholder of a business school are adding value to the brand image of the business school is tested through the following hypothesis.

Hypothesis 8:

The emotional factors associated with a business school have a significant influence on the brand image of the business school.

The above eight hypotheses formed the core testing in the quantitative survey. The following sections provide details of various attributes used for each of the constructs as extracted from the literature review.

4.3 Variables and Attributes used in the study

In the previous section, it was mentioned that this study identified eight constructs as drawn from the literature review. Within these constructs, a number of attributes have been identified. In order to develop and test the hypotheses, it is imperative that these constructs come with a closed nature, to ensure and infer that there is a finite number of attributes associated with the constructs. This is essential in order to develop a cross-sectional survey instrument to ensure only one point of data collection. The following table provides a summary of the main construct, the hypotheses and the attributes being considered for testing. The purpose of providing

this table is to indicate the scope of testing, followed by the survey instrument used in this study.

Table 2: Formulation of hypotheses

Construct	Hypothesis	Attributes
1. Expectation of recruiters	The expectation of a recruiter on the applied business knowledge of a student is significant in determining the brand image of a business school.	<ul style="list-style-type: none"> • Quality of the students • Quality of curriculum • Applied business knowledge • Location of the business school
2. Alumni quality	The quality of alumni demonstrated in the day-to-day performance has a significant influence on the brand image of the business school.	<ul style="list-style-type: none"> • Knowledge, trust and skills • Alumni performance in workplace • Leadership quality • Effective leader doing right things • Timely speedier decisions
3. Placement record	The placement record with high profile Fortune 500 companies has a significant influence on the brand image of the business school.	<ul style="list-style-type: none"> • Quality of internship • Competitive edge of the business school • Pre-graduation salary • Post-graduation salary • Placement in multinational companies (MNCs)

4. Governance	The governance structure of a business school has a significant influence on the brand image.	<ul style="list-style-type: none"> • Organisational structure • Reporting relationship • Dual subordination • Conflict of interest • Social diversity
5. Reputation of Business School	Obtaining external accreditations has a significant influence on the brand image of the business school.	<ul style="list-style-type: none"> • Government accreditations • Accreditation by professional associations • Quality assurance • Teaching methods • Digital learning devices • Research quality
6. Faculty competency	Faculty competency has a significant influence on the brand image of the business school.	<ul style="list-style-type: none"> • Qualification of faculty • Faculty experience • Research quality • Publications • Patents • Student-faculty ratio
7. Infrastructure	The infrastructure of a business school has a significant influence on the brand image of the business school.	<ul style="list-style-type: none"> • Location of the business school • Resources • Building • IT infrastructure • Centres of excellence
8. Emotional factors	The emotional factors with brand value have a	<ul style="list-style-type: none"> • Self-respect of the student

	significant influence on the brand image of the business school.	<ul style="list-style-type: none"> • Secured employability • Sense of fulfilment • Work-life balance • Emotional connections
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The eight hypotheses and the constructs associated with the hypotheses have been then encapsulated into a conceptual diagram. The conceptual diagram is shown below.

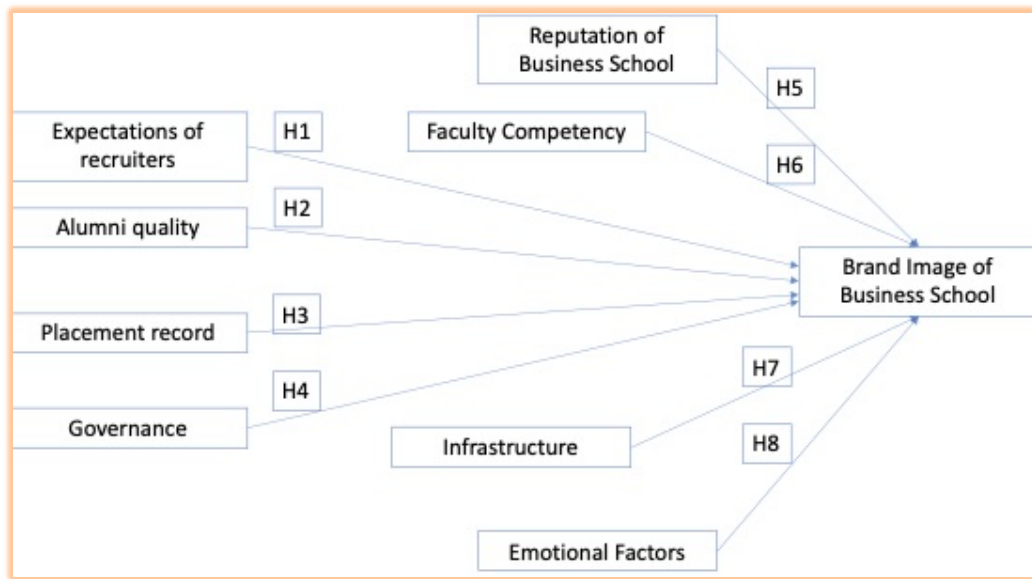


Figure 2: Conceptual model

In order to test the above model, a quantitative survey was prepared. The survey is produced below.

4.4 QUESTIONNAIRE

Questionnaire is prepared based on the research gaps and presented in appendix 3.

The questionnaire instrument was fully pilot tested for face and content validity prior to administering the same.

4.5 CONCLUSION

In this chapter, refinement to the initial idea was explored and discussed. This chapter also produced a full conceptual model for testing, along with eight hypotheses developed. In order to test these hypotheses, a survey instrument was prepared, and the same has been included in the chapter.

The next chapter provides details of quantitative data collection and analyses using ADNCO PLS application. The SEM model is extensively used in the next chapter.

CHAPTER 5: QUANTITATIVE DATA ANALYSES

5.1 Introduction

In the previous chapter, Research Methodology was discussed with a view to choosing an appropriate methodology to answer the questions raised in this study. In addition to the approaches, the previous chapter also discussed various considerations on data collection including both primary and secondary sources of data, questionnaire design, population, sample size, approach to the pilot study and approach to the main study. This chapter, Data Analysis, discusses the statistical tests performed to test the hypotheses developed for this study.

In order to perform statistical tests, ADANCO 2.0.1 was used in this study. ADANCO is a partial least square based software application. The software enables a researcher to test various statistical procedures such as reliability indicators, convergent validity, discriminant validity, multi-collinearity and structural equation model. The following sections discuss these.

5.2 Rationale for using ADANCO 2.0.1 (Advanced Analysis of Composite)

Traditional methods of investigating, analysing and interpreting survey results can become tedious if there is an absence of clarity. Some traditional statistical packages assume that measurement error reduces as more datasets are used in the tests. Contrary to this belief, ADANCO provides comparable measurement results based on small datasets as it uses a Partial Least Square treatment in arriving at a Structural Equation Model (SEM). SEM is a multivariate technique for investigating the relationships between measured variables and latent constructs (Suhr, 2008). The goals of SEM are to understand the patterns of correlation among a set of variables and to explain as much of their variance as possible with a specified model (Kothari, 2004).

One of the reasons for preferring SEM in this study is that SEM estimates multiple and interrelated dependencies in a single analysis. Both independent (exogenous)

and dependent (endogenous) variables were used. Direct relationships with dependent variables and indirect relationships among independent variables were also presented in the SEM model. The following table provides details on similarities and differences between traditional regression and SEM based path analyses.

Table 3: Similarities and differences between regression and path analysis

Similarities		
Details	Regression	Path Analysis
Assumptions	Assumes normal distribution	Assumes multivariate normality
Linear relationship	Based on linear statistical models	Based on linear statistical models
Test of causality	Does not offer test of causality	Does not offer test of causality
Differences		
Details	Regression	Path Analysis
Variables	Variables can be either dependent or independent	Variables can be both dependent and independent
Error recognition	Assumes that measurement occurs without error	Explicitly specified error or unexplained variance
Flexibility	Inflexible	Highly flexible and comprehensive methodology

Direct and indirect relationship	Not a convenient way to present direct and indirect relationships	Powerful and convenient way of presenting complex relationships, including direct and indirect relationships between variables, which are solved simultaneously to test model fit and estimate parameters.
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5.3 Measurement model

The measurement model ascertains the relationship between constructs and their indicators. Indicators are observed variables. ADANCO 2.0.1 can manage various types of measurement models, including (Dijkstra & Henseler, 2015):

- Composite models
- Common factor models (reflective measurement models)
- MIMIC models (causal-formative measurement)
- Single-indicator measurement
- Categorical exogenous variables

This empirical study has chosen the reflective model as it closely aligns with answering the research questions raised. The choice of a concrete type of measurement model (e.g., composite vs. reflective) has a bearing on the schemes for weighting and reporting. Irrespective of which measurement is chosen to measure a construct, at least one available indicator is a requirement of PLS.

Construct reliability

Construct reliability can be explained as the degree to which a research instrument consistently measures a construct – both across items (e.g. internal consistency and split-half reliability) and time points (e.g. test–retest reliability). In the absence of systematic error, reliability is equal to the squared correlation between the usually

unknown true construct and the scores of the construct (Dijkstra & Henseler, 2015).

ADANCO 2.0.1 gives three construct reliability quotients with multiple indicators:

1. Dijkstra–Henseler’s rho (Dijkstra & Henseler, 2015)
2. Composite reliability (J. o. Henseler, 2017)
3. Cronbach’s alpha (Cronbach, 1951)

The reliability quotients of each construct are displayed in Table 4. For a construct to be considered internally consistent and reliable, Dijkstra and Henseler (2015) indicate that its rho value must be greater than 0.7; any value above 0.8 is considered good, and above 0.9 as excellent. Similarly, Jöreskog and Sörbom (2006) state that any score above 0.9 is excellent.

Table 4: Construct reliability

Construct	Dijkstra-Henseler's rho (ρ_A)	Jöreskog's rho (ρ_c)	Cronbach's alpha (α)
Expectation of Recruiters	0.9157	0.9192	0.8841
Alumni Quality	0.9717	0.9623	0.9498
Placement Record	0.9542	0.9547	0.9391
Governance	0.9483	0.9412	0.9222
Reputation of Business School	1.0101	0.9505	0.9440
Faculty Competency	1.0325	0.9619	0.9587
Infrastructure	0.9741	0.9602	0.9498
Emotional Factors	0.9224	0.9203	0.8923
Outcome & Measures	0.9678	0.9562	0.9404

Considering the above norms for all the three tests, i.e., Dijkstra–Henseler’s rho (ρ_A), Jöreskog’s rho (ρ_c), and Cronbach’s alpha (α), it is assumed that the reliability levels of this study are excellent. As per Table 4, all eight constructs have a Dijkstra–Henseler’s rho above 0.9, indicating high reliability of the constructs. All eight constructs have a Jöreskog’s rho score above 0.9; most of the constructs of the Cronbach’s alpha (α) values are 0.9 and above. These reliability values affirm that the constructs are reliable and can be considered for further analyses. Further, it is a customary practice to ensure the reliability of constructs prior to conducting other tests. The high reliability values indicate that the instrument was fully comprehended by participants, and the questionnaire items measure what they are supposed to measure.

Scale validity

Validity indicates the degree to which the tool measures what it claims to measure (Hair, Ringle, & Sarstedt, 2011). Just because a measure is reliable, this does not mean it is necessarily valid. However, a test cannot be valid if it is not reliable. The reliability of the constructs has been determined by the previous tests. There are different ways of assessing validity. This thesis considers three ways: convergent validity, discriminant validity and validating the scale through cross loadings.

Convergent validity

As a parameter, convergent validity ascertains the degree to which two measures of constructs that should theoretically be related, are, in fact, related (Campbell & Fiske, 1959). Average variances extracted (AVE) have been analysed to test the convergent validity of the model. AVE measures the amount of variance explained by an unobserved construct in relation to the variance due to random measurement errors. The satisfactory threshold for this measurement is 0.5 (Hair et al., 2011). Therefore, a construct with an AVE value greater than 0.5 can be safely assumed to explain a substantial proportion of the variance in the model.

Table 5: Convergent validity using AVE

Construct	Average variance extracted (AVE)
Expectation of Recruiters	0.7405
Alumni Quality	0.8375
Placement Record	0.8095
Governance	0.7633
Reputation of Business School	0.7633
Faculty Competency	0.8089
Infrastructure	0.8283
Emotional Factors	0.7015
Outcome & Measures	0.8157

Table 5 displays the AVE figures for all the constructs included in the model. As the values range from 0.7015 to 0.8375, this indicates the presence of convergent validity within the model.

Convergent validity can also be observed by detecting whether the maximum likelihood loading of each indicator is significant to its underlying construct (Zikmund et al., 2013). A loading of 0.7 or above is considered acceptable. As shown in Table 6, below, all the constructs are within acceptable ranges as shown in the table below.

Table 6: Convergent validity using loadings

Indicator	Expectation of Recruiters (ER)	Alumni Quality (AQ)	Placement Record (PR)	Governance (GV)	Reputation of Business School (RB)	Faculty Competency (FC)	Infrastructure (IN)	Emotions (EM)	Outcome & Measures (OU)
ER1	0.8507								
ER2	0.8225								
ER3	0.9416								
ER4	0.8217								
AQ1		0.7372							
AQ2		0.9357							
AQ3		0.9662							
AQ4		0.9692							
AQ5		0.9462							
PR2			0.9645						
PR3			0.9703						
PR4			0.7369						
PR5			0.9021						
PR6			0.9049						
GV2				0.8911					
GV3				0.8147					
GV4				0.7562					
GV5				0.9421					
GV6				0.9482					
RB2					0.7709				
RB3					0.9450				
RB4					0.7937				
RB5					0.9236				
RB6					0.8371				
RB7					0.9534				
FC1						0.8219			
FC2						0.8140			
FC3						0.9707			
FC4						0.9701			
FC5						0.9700			
FC6						0.8313			
IN1							0.8958		
IN2							0.9199		
IN3							0.9004		
IN4							0.9093		
IN5							0.9249		
EM1								0.8985	
EM2								0.6768	
EM4								0.9005	
EM5								0.9554	
EM6								0.7202	
OU1									0.9544
OU2									0.9830
OU4									0.8620
OU6									0.9860
OU7									0.6972

It is thus safe to assume that the model clears the convergent validity test beyond any reasonable doubt.

Discriminant validity

As a parameter, discriminant validity ascertains the degree to which constructs that should theoretically be unrelated are in fact unrelated (Campbell & Fiske, 1959). It means that two conceptually different constructs must also differ statistically.

ADANCO 2.0.1 offers the Fornell and Larcker (1981) criterion as an approach to measure the discriminant validity of reflective measures. It suggests that a construct's average variance extracted (AVE) should be greater than its squared correlations with all other constructs in the model. Table 7, as generated by ADANCO 2.0.1, shows the average variance extracted on its main diagonal and the squared inter-construct correlations in the lower triangle.

Table 7: Fornell & Larcker's discriminant validity

Construct	ER	AQ	PR	GV	RB	FC	IN	EM	OU
Expectation of Recruiters (ER)	0.7405								
Alumni Quality (AQ)	0.3517	0.8375							
Placement Record (PR)	0.3393	0.4163	0.8095						
Governance (GV)	0.2825	0.3754	0.4793	0.7633					
Reputation of Business School (RB)	0.2871	0.2986	0.2984	0.2711	0.7633				
Faculty Competency (FC)	0.1959	0.2509	0.2547	0.2629	0.3419	0.8089			
Infrastructure (IN)	0.3290	0.3087	0.2662	0.2004	0.1991	0.1299	0.8283		
Emotions (EM)	0.1734	0.2977	0.4722	0.4964	0.1519	0.1503	0.1114	0.7015	
Outcome & Measures (OU)	0.3486	0.3892	0.4011	0.3533	0.2779	0.2499	0.3257	0.2723	0.8157

Squared correlations; AVE in the diagonal.

Discriminant validity is regarded as agreed if the highest absolute value of each column and each row is found in the main diagonal. This means that the diagonal values (AVEs) should be greater than the non-diagonal values of their corresponding rows and columns (squared correlations). Discriminant validity thus exists within the model.

Validating scale through cross loadings

Validating through cross loadings endorses the coherent formation of the constructs, thereby confirming the validity of the instrument. In ADANCO 2.0.1 (Dijkstra & Henseler, 2015), the cross-loadings matrix carries the correlations between indicators and constructs. Table 8 depicts that the loadings of the determinants on their corresponding constructs (denoted in bold) are higher than their cross loadings on all other constructs. This confirms that the constructs maintain their validity without any cross loading.

Table 8: Cross loadings matrix

Indicator	Expectation of Recruiters (ER)	Alumni Quality (AQ)	Placement Record (PR)	Governance (GV)	Reputation of Business School (RB)	Faculty Competency (FC)	Infrastructure (IN)	Emotions (EM)	Outcome & Measures (OU)
ER1	0.8507	0.5614	0.5861	0.5815	0.5699	0.5832	0.3963	0.5106	0.5264
ER2	0.8225	0.3630	0.2914	0.2238	0.3277	0.1679	0.5219	0.0433	0.3967
ER3	0.9416	0.6204	0.6771	0.6375	0.5751	0.4886	0.5239	0.5742	0.6271
ER4	0.8217	0.4429	0.3547	0.2771	0.3035	0.1883	0.5600	0.1628	0.4342
AQ1	0.4344	0.7372	0.2607	0.2022	0.3874	0.3376	0.4638	0.0012	0.3723
AQ2	0.5208	0.9357	0.6054	0.5899	0.5839	0.5943	0.4544	0.4972	0.5644
AQ3	0.6029	0.9662	0.6685	0.6468	0.5181	0.4692	0.5522	0.5944	0.6342
AQ4	0.5894	0.9692	0.6714	0.6333	0.5236	0.4590	0.5492	0.6099	0.6321
AQ5	0.5481	0.9462	0.6461	0.6192	0.4753	0.4193	0.5261	0.6212	0.6006
PR2	0.5820	0.6035	0.9645	0.6360	0.5271	0.4786	0.5257	0.5927	0.6105
PR3	0.5823	0.6218	0.9703	0.6361	0.5301	0.4751	0.5441	0.6129	0.6193
PR4	0.3035	0.4287	0.7369	0.6611	0.3788	0.4086	0.1822	0.8224	0.4265
PR5	0.5928	0.6399	0.9021	0.6188	0.4263	0.3200	0.5791	0.6341	0.6213
PR6	0.5067	0.5804	0.9049	0.5910	0.5890	0.6087	0.4113	0.4974	0.5424
GV2	0.4768	0.5638	0.5723	0.8911	0.5717	0.5966	0.4014	0.4922	0.5172
GV3	0.3323	0.4634	0.6330	0.8147	0.3062	0.3104	0.2348	0.8628	0.4502
GV4	0.2623	0.3496	0.5507	0.7562	0.2812	0.2762	0.1625	0.7631	0.3578
GV5	0.5656	0.6232	0.6348	0.9421	0.5094	0.4898	0.5152	0.5548	0.6031
GV6	0.5935	0.6134	0.6446	0.9482	0.5367	0.5056	0.5291	0.5426	0.6103
RB2	0.2700	0.2159	0.1248	0.1018	0.7709	0.4231	0.1949	-0.1311	0.1824
RB3	0.4901	0.5374	0.5912	0.5807	0.9450	0.5897	0.3804	0.5131	0.5181
RB4	0.2645	0.2337	0.1420	0.1194	0.7937	0.4472	0.2137	-0.0968	0.2113
RB5	0.6035	0.6406	0.6758	0.6379	0.9236	0.5227	0.5453	0.5802	0.6341
RB6	0.4434	0.3458	0.2589	0.2111	0.8371	0.3600	0.4179	-0.0175	0.3483
RB7	0.5136	0.5618	0.5917	0.5901	0.9534	0.6434	0.3844	0.5033	0.5278
FC1	0.2345	0.2132	0.1315	0.1377	0.4206	0.8219	0.2016	-0.1042	0.2213
FC2	0.2347	0.2203	0.1291	0.1239	0.4210	0.8140	0.2014	-0.1213	0.2254
FC3	0.4883	0.5668	0.6042	0.6166	0.5912	0.9707	0.3928	0.5427	0.5612
FC4	0.4771	0.5596	0.6027	0.6119	0.5885	0.9701	0.3829	0.5447	0.5588
FC5	0.4760	0.5634	0.6021	0.6149	0.5914	0.9700	0.3887	0.5497	0.5593
FC6	0.2438	0.2294	0.1442	0.1359	0.4299	0.8313	0.2019	-0.0758	0.2326
IN1	0.4763	0.3982	0.2907	0.2138	0.2756	0.1717	0.8958	0.0571	0.4240
IN2	0.5701	0.6091	0.6407	0.6040	0.5238	0.4846	0.9199	0.5550	0.6159
IN3	0.4683	0.4081	0.3035	0.2059	0.2852	0.1552	0.9004	0.0680	0.4165
IN4	0.4748	0.3973	0.3144	0.2307	0.2986	0.1771	0.9093	0.0791	0.4313
IN5	0.5786	0.6209	0.6444	0.6054	0.5371	0.5026	0.9249	0.5388	0.6230
EM1	0.3359	0.4216	0.5832	0.5903	0.2041	0.1529	0.2942	0.8985	0.4257
EM2	0.0704	0.2294	0.3593	0.4371	0.2673	0.4053	-0.0949	0.6768	0.1494
EM4	0.3174	0.4204	0.5715	0.5807	0.1882	0.1242	0.2838	0.9005	0.4082
EM5	0.3314	0.4737	0.6456	0.6635	0.3063	0.3017	0.2431	0.9554	0.4444
EM6	0.4824	0.5741	0.5934	0.5985	0.5654	0.6122	0.4045	0.7202	0.5531
OU1	0.5914	0.6145	0.6318	0.5829	0.4396	0.3845	0.5972	0.5376	0.9544
OU2	0.5664	0.6139	0.6349	0.6087	0.5292	0.5219	0.5291	0.5405	0.9830
OU4	0.4616	0.5383	0.5666	0.5557	0.5755	0.5918	0.3885	0.5108	0.8620
OU6	0.5729	0.6182	0.6385	0.6130	0.5398	0.5339	0.5348	0.5416	0.9860
OU7	0.4848	0.3929	0.3084	0.2174	0.2186	0.1092	0.5898	0.0885	0.6972

Thus, it can be seen that the validity tests are affirmed in this study through convergent, discriminant, and cross loadings tests, and hence the model shows high levels of reliability and validity.

Inter-construct correlations

The estimated correlations between constructs are shown in the inter-construct correlation matrix. In Table 9, below, for reasons of symmetry, only the lower triangle of the inter-construct correlation matrix is shown (Dijkstra & Henseler, 2015). The inter-construct correlations can differ from the correlations between the construct scores. In this study, the reliability was manually set to a value different from 1, which can be seen in the table.

Table 9: Inter-construct correlations

Construct	ER	AQ	PR	GV	RB	FC	IN	EM	OU
Expectation of Recruiters(ER)	1.0000								
Alumni Quality(AQ)	0.5931	1.0000							
Placement Record(PR)	0.5825	0.6452	1.0000						
Governance(GV)	0.5315	0.6127	0.6923	1.0000					
Reputation of Business School(RB)	0.5359	0.5465	0.5463	0.5207	1.0000				
Faculty Competency(FC)	0.4426	0.5009	0.5047	0.5127	0.5847	1.0000			
Infrastructure(IN)	0.5736	0.5556	0.5160	0.4477	0.4462	0.3605	1.0000		
Emotions(EM)	0.4164	0.5457	0.6872	0.7046	0.3897	0.3877	0.3337	1.0000	
Outcome & Measures(OU)	0.5904	0.6238	0.6333	0.5944	0.5271	0.4999	0.5707	0.5218	1.0000

The inter-construct correlations assisted in understanding the possibility of developing multiple regression models. Based on the inter-construct correlation figures being more than 0.5, the possibility for a valid structural model, along with several meaningful mediations, exists.

Thus, the results of the validity tables – namely, reliability indicators, convergent validity, discriminant validity, and inter-construct correlation were found to be valid in this study, providing confirmation that a structural equation model can be run based on the datasets.

5.4 Structural Equation Model (SEM)

The structural equation model comprises constructs that are exogenous and endogenous, and the relationships between them. It is assumed that the values of

the exogenous constructs are given from outside the model. Therefore, the exogenous variables are not explained by the other constructs in the model, and thus no arrows pointing to the exogenous constructs are contained in the structural model.

In contrast, the endogenous construct is at least partially explained by the other constructs in the model. Each endogenous construct must have at least one structural model arrow pointing to it. In the model graph, ovals represent constructs and arrows represent paths. In general, a linear relationship is assumed between the constructs.

The emphasis of the scientific endeavours pursued in the empirical research is usually the size and the significance of the path relationships. As per ADANCO 2.0.1, the structural model developed is recursive, i.e., there is no causal loop and it is assumed that all residuals are uncorrelated. The structural models comprise several unconnected pieces with unique construct names.

Figure 4 shows the structural model using path coefficients returned by ADANCO 2.0.1 for this empirical research. Appendix 6 carries a detailed view.

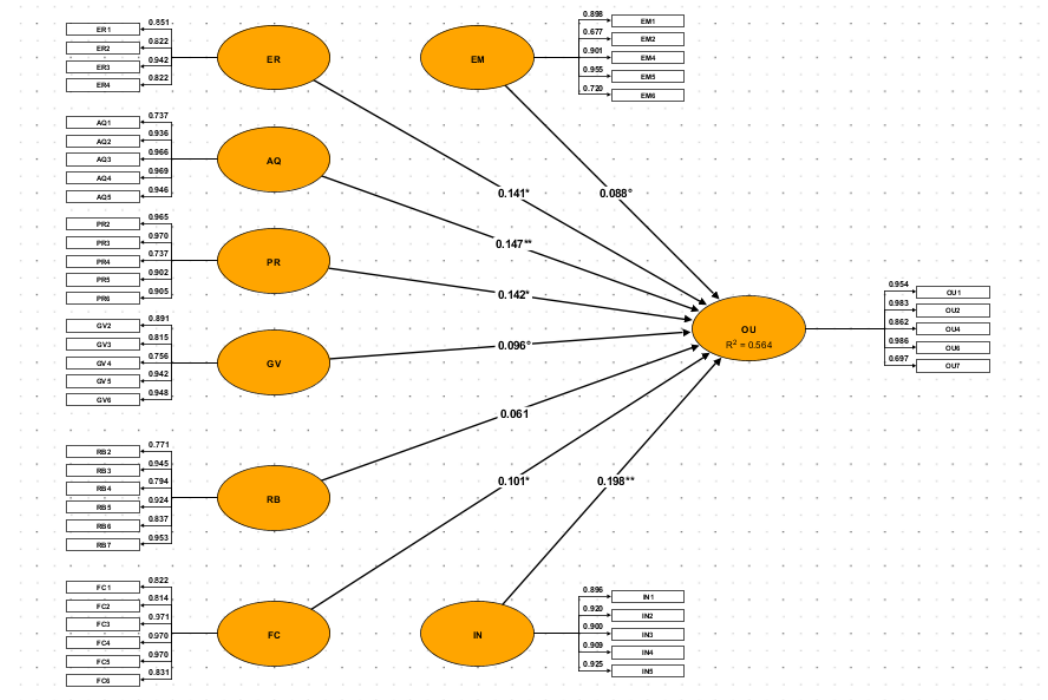


Figure 3: Structural equation model

Coefficient of determination (R^2)

Figure 4, above, shows the structural model using path coefficients. An R^2 value of 0.564 for the dependent variable, which is the factors that influence the brand image of the business school from a recruiter's perspective. The outcomes and measures reflect that 56.4% of the variance in this latent variable is explained by the contributing factors included as antecedents in this model. This number is considered reasonably high for a partial least-squares regression model (J. Henseler & Fassott, 2010).

Assessment of hypotheses and path coefficients

Hair et al. (2010) documented that t-tests play a critical role in determining whether significant relationships exist between the various constructs in the model. In this study, two tailed t-tests were evaluated and measured at 10%, 5%, and 1% significance levels. Significance levels are measured using the t-values and the p-values, as depicted in Table 10, below.

Table 10: Table measurement of t-values

Significance	t-values	Decision
$p > 0.10$	$t < 1.65$	Not significant
$0.10 > p > 0.05$	$1.65 < t < 1.96$	Moderate
$0.05 > p > 0.01$	$1.96 < t < 2.59$	Significant
$p < 0.01$	$t > 2.59$	Very significant

In this research, 8 hypotheses were postulated. To evaluate the reliability of the hypotheses, each was tested against recorded t-values of the independent variables and the dependent variable. For unknown population data, a bootstrapping method was used for modelling, as documented by Efron (1987).

The following direct effect table has been used for testing the 8 hypotheses (eight direct relations).

Table 11: Direct effects inference

Effect	Original coefficient	Standard bootstrap results				Percentile bootstrap quantiles				Supported	
		Mean value	Standard error	t-value	p-value (2-sided)	p-value (1-sided)	0.5%	2.5%	97.5%		99.5%
ER -> OU	0.1411	0.1406	0.0554	2.5476	0.0110	0.0055	0.0228	0.0469	0.2684	0.3359	Yes
AQ -> OU	0.1469	0.1449	0.0558	2.6338	0.0086	0.0043	0.0381	0.0546	0.2724	0.3327	Yes
PR -> OU	0.1423	0.1412	0.0635	2.2423	0.0252	0.0126	0.0283	0.0494	0.2952	0.4023	Yes
GV -> OU	0.0961	0.0966	0.0572	1.6812	0.0930	0.0465	0.0033	0.0221	0.2296	0.3119	Yes
RB -> OU	0.0615	0.0605	0.0395	1.5574	0.1197	0.0598	-0.0207	-0.0019	0.1463	0.1990	No
FC -> OU	0.1012	0.0965	0.0438	2.3090	0.0211	0.0106	-0.0032	0.0204	0.1939	0.2171	Yes
IN -> OU	0.1984	0.1995	0.0640	3.0995	0.0020	0.0010	0.0768	0.1001	0.3629	0.4498	Yes
EM -> OU	0.0880	0.0785	0.0455	1.9337	0.0534	0.0267	-0.0922	-0.0177	0.1615	0.1789	Yes

Hypotheses tested for research question 1 on expectation of recruiters

The research literature review identified expectations of recruiters as one of the variables impacting the factors that influence the brand image of the business school from a recruiter’s perspective. In a reflective model, expectations of recruiters was proposed to be measured by four determinants, as shown in Figure 5 and Table 12, below. The structural equation model, Figure 4, indicated responses to not only the research question, but also to the importance of each of the four dimensions in a holistic view. Their importance was reflected by the loading estimates and the t-values that were brought out by the structural equation model.

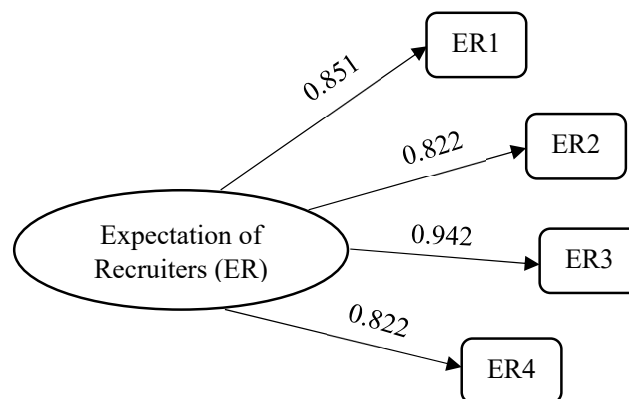


Figure 4: Loading estimates of the determinants of expectation of recruiters

A loading estimate range between 0.5 and less than 0.8 signifies a moderate effect on the independent variable (Zikmund et al., 2013) and greater 0.8 signifies a strong effect (Wright, 1934). Based on the figure above, the following table shows the summary for the determinants' hypotheses tested for expectations of recruiters.

Table 12: Hypotheses tested for the determinants of expectation of recruiters

Research question 1: How is the level of applied business knowledge important for the business school to enhance its brand image among the recruiters?				
Hypothesis 1 (H1): The expectation of recruiters to evaluate the level of applied business knowledge by students has a significant influence on brand image of the business school				
No.	Determinant hypotheses	Loadings > 0.8 Strong 0.5 < L < 0.8 Moderate	t-values t > 2.59 strongly significant	Inference on loadings
H1a	Quality of students is a significant and distinct determinant of the construct expectation of recruiters (ER1).	0.851	27.6669	Strong
H1b	Quality of curriculum is a significant and distinct determinant of the construct expectation of recruiters (ER2).	0.822	16.0645	Strong
H1c	Applied business knowledge is a significant and distinct determinant of the construct expectation of recruiters (ER3).	0.942	96.7434	Strong
H1d	Location of business school is a significant and distinct determinant of the construct expectation of recruiters (ER4).	0.822	15.8620	Strong

Hypothesis 1 (H1) to test the effect of expectation of recruiters (ER) on brand image of the business school

H1: The expectation of recruiters to evaluate the level of applied business knowledge by students has a significant influence on the brand image of the business school.

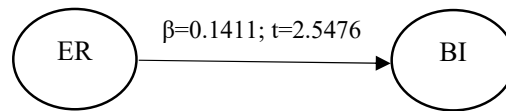


Figure 5: Influence of expectation of recruiters on brand image of business school

Table 12 on the direct effects inference indicates a significant relationship between expectation of recruiters and the brand image of a business school, with a t-value of 2.5476. This influence is a positive one, as the path coefficient, $\beta_{ER-BI} = 0.1411$, indicates that an increase in recruiters' expectations is likely to increase the brand image of the business school. Therefore, the first hypothesis (H1) is accepted at a 5% significance level ($t > 1.96$), and it can be determined that expectations of recruiters significantly influences the brand image of the business schools.

The result thus confirms previous findings that recruiters attach considerable value to the quality of students, such as characteristics and skills, and the matching of job specifications with expected performance in the position. Recruiters also use intellectual parameters for the placement of students, which includes rankings as a mark of excellence. Recruiters perceive graduate students based on competency-based professional development. (Albright, 2019).

Hypotheses tested for research question 2 on alumni quality

The research literature review identified alumni quality as one of the factors that influences the brand image of the business school from recruiters' perspective. In a reflective model, alumni quality was proposed to be measured by five determinants, as shown in Figure 7 and Table 13, below. The structural equation model, Figure 4, indicated responses to not only the research question, but also to the importance of

each of the five dimensions in a holistic view. Their importance was reflected by the loading estimates and the t-values that were brought out by the structural equation model.

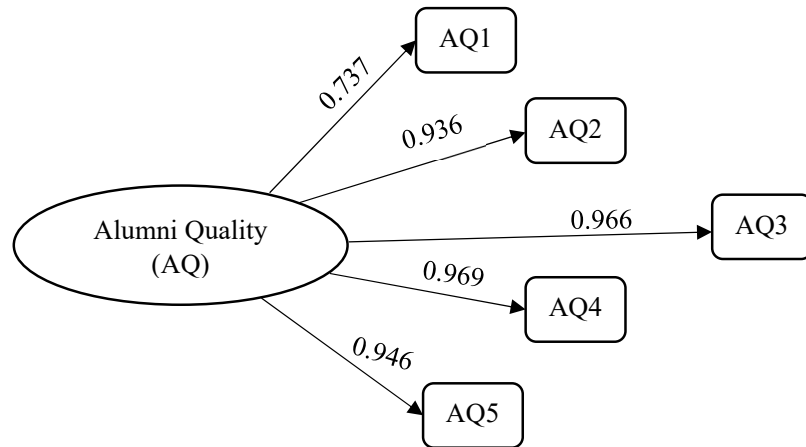


Figure 6: Loading estimates of the determinants of alumni quality

A loading estimate range between 0.5 and less than 0.8 signifies a moderate effect on the independent variable (Zikmund et al., 2013) and above 0.8 signifies a strong effect (Wright, 1934). Based on the figure above, the following table shows the summary for the determinants' hypotheses tested for alumni quality.

Table 13: Hypotheses tested for the determinants of quality of alumni of a business school

<p>Research question 2: How do recruiters measure the quality of alumni of a business school with brand image which is reflected in the day to day performance of the alumni</p> <p>Hypothesis 2 (H2): The quality of alumni with day-to-day performance has a significant influence on the brand image of the business school</p>				
No.	Determinant hypotheses	Loadings > 0.8 Strong 0.5 < L < 0.8 Moderate	t-values t > 2.59 strongly significant	Inference on loadings
H2a	Knowledge transfer in the form of skillset acquired by the students of the business school is judged by recruiters	0.737	10.4534	Moderate
H2b	Performance at workplace of the alumni of the business school adds value to enhance the brand-image of the business school	0.936	59.9403	Strong
H2c	The leadership quality of alumni in tackling crucial problems of day-to-day activities of the organization is a vital factor to judge the alumni	0.966	134.1090	Strong
H2d	Alumni plays a role of effective leader by doing right things and not doing things right	0.969	132.4583	Strong
H2e	The principle of timely and speedier decision making is followed by the alumni of the business school with strong brand image	0.946	70.0018	Strong

Hypothesis 2 (H2) to test the effect of alumni quality (AQ) on brand image of the business school

H2: The quality of alumni with day-to-day performance has a significant influence on the brand image of the business school

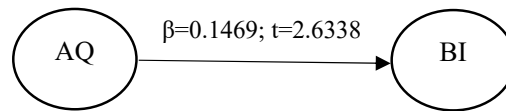


Figure 7: Effect of quality of alumni on brand image of business school

Table 13 on the direct effects inference indicates a very significant relationship between alumni quality and brand image of business school, with a t-value of 2.6338. This influence is a positive one, as the path coefficient, $\beta_{AQ-BI} = 0.1469$, indicates that an increase in alumni quality is likely to improve the brand image of the business school. Therefore, the second hypothesis (H2) is accepted at a 1% significance level ($t > 2.59$), and it can be determined that alumni quality very significantly influences the brand image of the business school. This result confirms the findings of Valdez and Daguplo (2018) that positive workplace attitudes encourage alumni to engage in positive behaviours at work. The research also demonstrates that job satisfaction does not correlate with satisfactory performance in the workplace.

Hypotheses tested for research question 3 on placement record

The research literature review identified placement record as one of the variables influencing the brand image of the business school from recruiters' perspectives. In a reflective model, the placement record was proposed to be measured by five determinants, as shown in Figure 9 and Table 14, below. The structural equation model, Figure 4, indicated responses to not only the research question, but also to the importance of each of the five dimensions in a holistic view. Their importance was reflected by the loading estimates and the t-values that were brought out by the structural equation model.

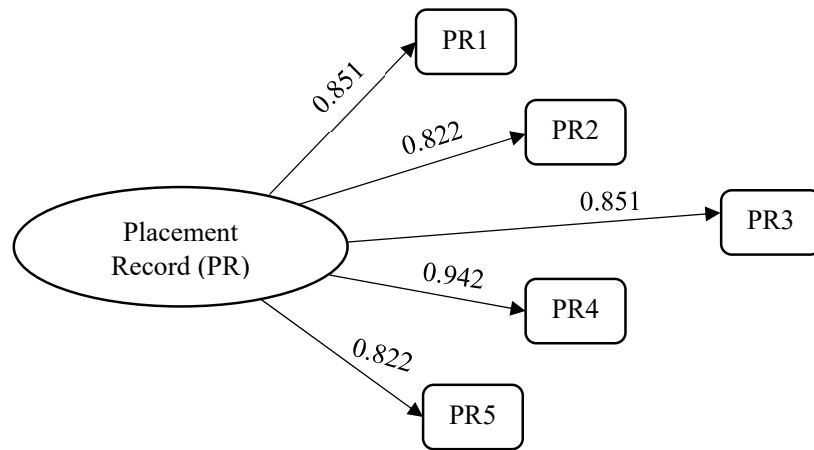


Figure 8: Loading estimates of the determinants of placement record

A loading estimate range between 0.5 and less than 0.8 signifies a moderate effect on the independent variable (Zikmund et al., 2013) and above 0.8 signifies a strong effect (Wright, 1934). Based on the figure above, the following table shows the summary for the determinants' hypotheses tested for alumni quality.

Table 14: Hypotheses tested for the determinants of placement record of a business school

<p>Research question 3: What are the essential features which are the determinants of an impressive placement record?</p> <p>Hypothesis 3 (H3): The placement record with high profile Fortune 500 companies has a significant influence on the brand image of the business school</p>				
No.	Determinant hypotheses	Loadings > 0.8 Strong 0.5 < L < 0.8 Moderate	t-values t > 2.59 strongly significant	Inference on loadings
H3a	The quality of internships adds value to placement record of the business school	0.965	114.8452	Strong
H3b	Quicker placement record enriches competitive advantage among the business school as an evidence of competitive edge in the employment market	0.970	148.2285	Strong
H3c	Pre-graduation salary is used as a basis to compare placement salary	0.737	24.3592	Moderate
H3d	The competitive advantage is reflected by comparison of salary after 5 years of graduation with placement salary and pre-graduate salary	0.902	58.4888	Strong
H3e	Placement by companies of Fortune 500 enhances and enriches the brand image of the business school	0.905	46.2420	Strong

Hypothesis 3 (H3) to test the effect of placement record (PR) on brand image of the business school

H3: The placement record with high profile Fortune 500 companies has a significant influence on the brand image of the business school

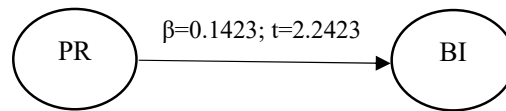


Figure 9: Effect of placement record on brand image of business school

Table 14 on the direct effects inference indicates a significant relationship between placement record and brand image of business school, with a t-value of 2.2423. This influence is a positive one, as the path coefficient, $\beta_{PR-BI} = 0.1423$, indicates that an increase in placement record is likely to increase the brand image of the business schools. Therefore, the third hypothesis (H3) is accepted at a 5% significance level ($t > 1.96$), and it can be determined that the placement record significantly influences the brand image of a business school. The study by Khan and Azam (2017) confirms this finding that the effective strategies to gain competitive edge or competitive advantage by benchmarking with other institutions are perceived in terms of quality of faculty, student competency, effective curriculum and timely placement.

Hypotheses tested for research question 4 on governance of business school

The research literature review identified governance as a variable impacting upon the brand image of the business school from recruiters' perspective. In a reflective model, governance was proposed to be measured by five determinants, as shown in Figure 11 and Table 15, below. The structural equation model, Figure 4, indicated responses to not only the research question, but also to the importance of each of the five dimensions in a holistic view. Their importance was reflected by the loading estimates and the t-values that were brought out by the structural equation model.

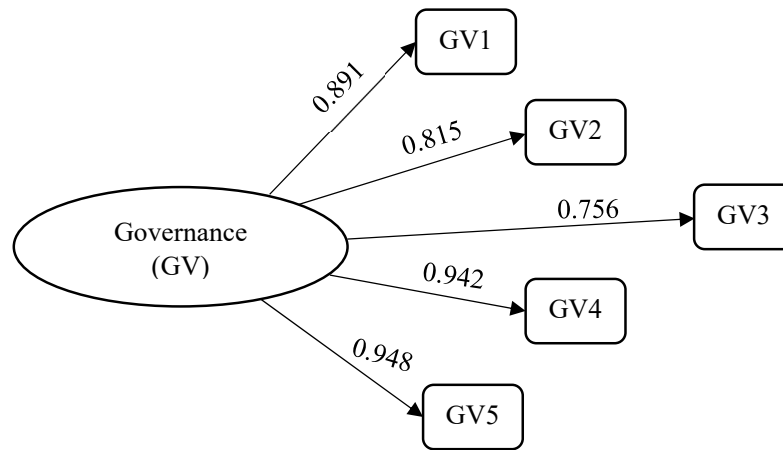


Figure 10: Loading estimates of the determinants of governance

A loading estimate range between 0.5 and less than 0.8 signifies a moderate effect on the independent variable (Zikmund et al., 2013) and above 0.8 signifies a strong effect (Wright, 1934). Based on the figure above, the following table shows the summary for the determinants' hypotheses tested for governance.

Table 15: Hypotheses tested for the determinants of governance of business school

<p>Research question 4: How do ethical practices and Corporate Social Responsibilities framed by business schools play an important role in determining good corporate image for the business school?</p> <p>Hypothesis 4 (H4): The governance structure of a business school with ethical practices and CSR has a significant influence on the brand image of the business school</p>				
No.	Determinant hypotheses	Loadings > 0.8 Strong 0.5 < L < 0.8 Moderate	t-values t > 2.59 strongly significant	Inference on loadings
H4a	Organisational structure with clear lines of authority and responsibility distinguishing the administration, academic and senior management depicts a good governance system	0.8911	50.5250	Strong
H4b	Various levels of reporting signify the principle of span of control and unity of command in administration of business school	0.8147	31.4201	Strong
H4c	Absence of dual sub-ordination in reporting relationship is avoided to enhance the brand image of the business school	0.7562	20.9105	Moderate
H4d	Clear-cut policies on conflict of interest ensures transparency in day-to-day activities which in turn enhances brand image	0.9421	88.2365	Strong
H4e	Maintaining sustainable growth in social diversity, environmental setup and financial stability enhances good corporate image for the business school	0.9482	123.5403	Strong

Hypothesis 4 (H4) to test the effect of governance of business school (GV) on brand image of the business school

H4: The governance structure of a business school with ethical practices and CSR has a significant influence on the brand image of the business school

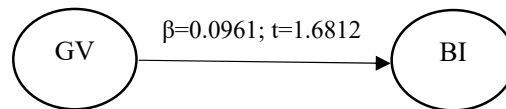


Figure 11: Effect of governance on brand image of business school

Table 15 on the direct effects inference indicates a moderate relationship between governance and brand image of a business school, with a t-value of 1.6812. This influence is a positive one, as the path coefficient, $\beta_{GV-BI} = 0.0961$, indicates that an increase in governance is likely to increase the brand image of the business schools. Therefore, the fourth hypothesis (H4) is accepted at a 10% significance level ($t > 1.65$), and it can be determined that governance has moderate influence on the brand image of the business school. In keeping with these findings, the previous study by Bryan-Kjær (2017) indicated that a sustainability in the hierarchy as to how corporate sustainability is secured in the organisational structure of any organisation. This principle also applies to business schools where sustainable growth in operations is required.

Hypotheses tested for research question 5 on reputation of business school

The research literature review identified the reputation of a business school as one of the variables impacting upon the brand image of the business school from a recruiter's perspective. In a reflective model, the reputation of a business school was proposed to be measured by six determinants, as shown in Figure 13 and Table 16, below. The structural equation model, Figure 4, indicated responses to not only the research question, but also to the importance of each of the five dimensions in a holistic view. Their importance was reflected by the loading estimates and the t-values that were brought out by the structural equation model.

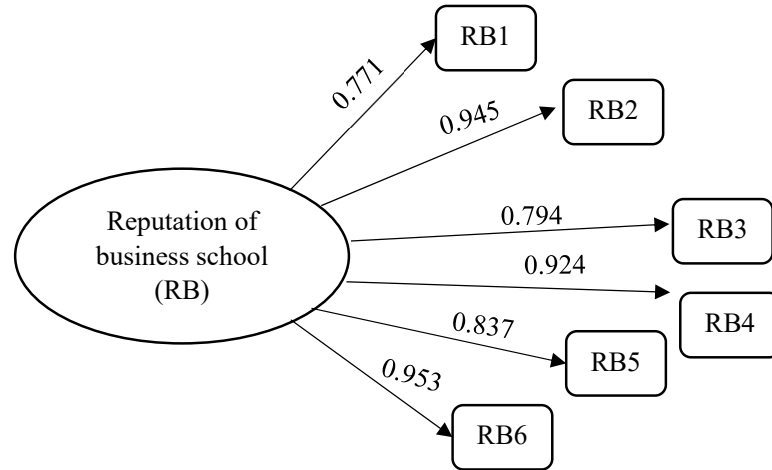


Figure 12: Loading estimates of the determinants of reputation of b-school

A loading estimate range between 0.5 and less than 0.8 signifies a moderate effect on the independent variable (Bullmore et al., 2000) and above 0.8 signifies a strong effect (Wright, 1934). The following table shows the summary of the determinants' hypotheses tested for the reputation of a business school.

Table 16: Hypotheses tested for the determinants of reputation of business school

<p>Research question 5: Why do recruiters consider good quality assurance with prestigious governmental as well as professional accreditations such as AACSB, EQUIS, AMBA & ABEST21, as the backbone of the brand image of the business school?</p> <p>Hypothesis 5 (H5): The quality assurance with prestigious accreditations has a significant influence on the brand image of the business school</p>				
No.	Determinant hypotheses	Loadings > 0.8 Strong 0.5 < L < 0.8 Moderate	t-values t > 2.59 strongly significant	Inference on loadings
H5a	Governmental accreditation enhances credibility of the business school as a higher education provider	0.7709	8.0322	Moderate
H5b	Professional accreditation like AACSB, EQUIS, AMBA & ABEST21 adds greater value to the brand image of the business school	0.9450	65.6748	Strong
H5c	A good quality assurance is represented by perfect compliance of internal and external academic audit requirements	0.7937	8.8805	Moderate

H5d	Systematic learning and teaching methods also enhance the brand image of the business school	0.9236	61.0730	Strong
H5e	Use of digital learning devices as an integral part of infrastructure ensures adherence to disruptive technology	0.8371	11.8050	Strong
H5f	Research quality is the backbone of business school to ensure the brand of the business school	0.9534	91.7034	Strong

Hypothesis 5 (H5) to test the effect of reputation of business school (RB) on brand image of the business school

H5: The quality assurance with prestigious accreditations has a significant influence on the brand image of the business school

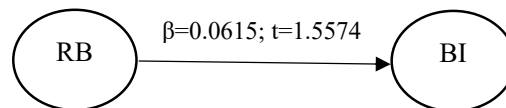


Figure 13: Effect of reputation on brand image of business school

Table 16 on the direct effects inference indicates an insignificant relationship between reputation and the brand image of a business school, with a t-value of 1.5574 and hence this hypothesis (H5) stands rejected. Contrary to this finding, the previous study by Akoto and Akoto (2018) indicated that quality assurance of business management education should ensure well-organised and well-developed

quality assurance systems assisted by policies, procedures and practices which will be recognised in the ranking by media and global accreditation bodies.

Hypotheses tested for research question 6 on faculty competency of b-school

The research literature review identified faculty competency as an influence on the brand image of the business school from the recruiter's perspective. In a reflective model, the faculty's competency was proposed to be measured by six determinants, as shown in Figure 15 and Table 17, below. The structural equation model, Figure 4, indicated responses to not only the research question, but also to the importance of each of the five dimensions in a holistic view. Their importance was reflected by the loading estimates and the t-values that were brought out by the structural equation model.

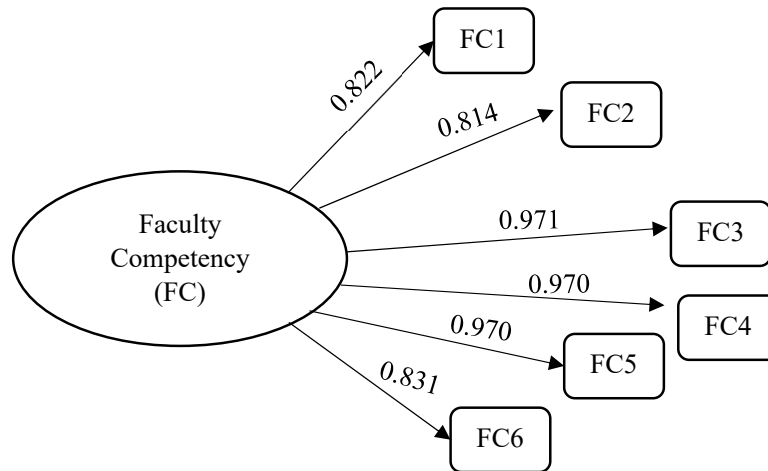


Figure 14: Loading estimates of the determinants of faculty competency

A loading estimate range between 0.5 and less than 0.8 signifies a moderate effect on the independent variable (Zikmund et al., 2013) and above 0.8 signifies a strong effect (Wright, 1934). Based on the figure above, the following table shows the summary for the determinants' hypotheses tested for faculty competency.

Table 17: Hypotheses tested for the determinants of faculty competency

<p>Research question 6: What are the pivotal factors for determining faculty competency commensurate with brand image of business school?</p> <p>Hypothesis 6 (H6): Faculty competency with rich qualifications and research calibre has a significant influence on the brand image of the business school</p>				
No.	Determinant hypotheses	Loadings > 0.8 Strong 0.5 < L < 0.8 Moderate	t-values t > 2.59 strongly significant	Inference on loadings
H6a	The academic and professional qualification of various levels of faculty reflect the quality of the business school in teaching learning & research	0.8219	8.8209	Strong
H6b	The experience of various levels of faculty is to be considered in judging the brand image of the business school	0.8140	8.4693	Strong
H6c	The level & quality of research by the faculty is considered in judging the brand image of the business school	0.9707	50.9173	Strong
H6d	The quality and number of research publications in high impact journals by the faculty is considered in	0.9701	48.4395	Strong

	judging the scholarly brand image of the business school			
H6e	The quality and number of patents patented by the faculty enhances the brand image of the business school	0.9700	49.9866	Strong
H6f	Student-faculty ratio is vital in enhancing the brand image of the business school	0.8313	9.5269	Strong

Hypothesis 6 (H6) to test the effect of faculty competency (FC) on brand image of the business school

H6: Faculty competency with rich qualifications and research calibre has a significant influence on the brand image of the business school

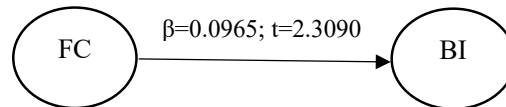


Figure 15: Effect of faculty competency on brand image of business school

Table 17 on the direct effects inference indicates a significant relationship between faculty competency and brand image of business school, with a t-value of 2.3090. This influence is a positive one, as the path coefficient, $\beta_{FC-BI} = 0.1012$, indicates that an increase in faculty competency is likely to improve the brand image of the business school. Therefore, the first hypothesis (H6) is accepted at a 5% significance level ($t > 1.96$), and it can be determined that expectation of recruiters significantly influences the brand image of the business schools. In-line with these findings, the past studies by Horn et al. (2016) focused on faculty qualification policies and strategies relevant to various programs of business school. An analysis of state and

regional accreditation agencies reveals that Ph.D qualification in business administration is more relevant than a traditional academic credential approach.

Hypotheses tested for research question 7 on infrastructure of b-school

The research literature review identified the infrastructure of a business school as one of the variables influencing the brand image of a business school from a recruiter's perspective. In a reflective model, infrastructure was proposed to be measured by five determinants, as shown in Figure 17 and Table 18, below. The structural equation model, Figure 4, indicated responses to not only the research question, but also to the importance of each of the five dimensions in a holistic view. Their importance was reflected by the loading estimates and the t-values that were brought out by the structural equation model.

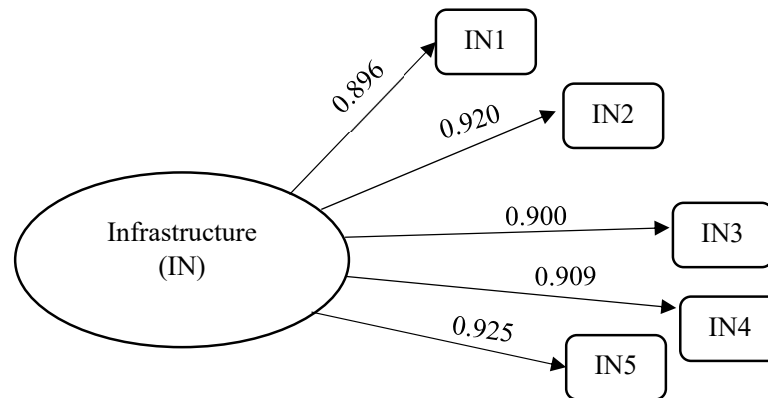


Figure 16: Loading estimates of the determinants of infrastructure

A loading estimate range between 0.5 and less than 0.8 signifies a moderate effect on the independent variable (Zikmund et al., 2013) and above 0.8 signifies a strong effect (Wright, 1934). The following table shows the summary for the determinants' hypotheses tested for infrastructure of a business school.

Table 18: Hypotheses tested for the determinants of infrastructure of b-school

<p>Research question 7: How infrastructure plays a significant role in building brand image of the business school?</p> <p>Hypothesis 7 (H7): The infrastructure of the business school with location, resources and technology has a significant influence on the brand image of the business school</p>				
No.	Determinant hypotheses	Loadings > 0.8 Strong 0.5 < L < 0.8 Moderate	t-values t > 2.59 strongly significant	Inference on loadings
H7a	The location of the business school in relation to accessibility by internal and external stakeholders is considered important	0.8958	76.2883	Strong
H7b	The resources of the business school namely manpower, technology, labs / library, systems and finance are considered pivotal factors in highlighting brand image of business school	0.9199	14.3606	Strong

H7c	The buildings of the business school with user-friendly layout is considered as important for the brand image of the business school	0.9004	76.5891	Strong
H7d	Comprehensive usage of cloud computing with hardware / software enhances the brand image of the business school	0.9093	113.0186	Strong
H7e	The existence and quality of the centers of excellence of various discipline enhances the brand image of the business school	0.9249	27.4857	Strong

Hypothesis 7 (H7) to test the effect of infrastructure (IN) on brand image of the business school

H7: Infrastructure with rich qualifications and research calibre has a significant influence on the brand image of the business school

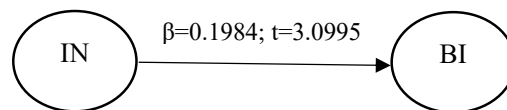


Figure 17: Effect of infrastructure on brand image of business school

Table 18 on the direct effects inference indicates a significant relationship between infrastructure and brand image of business school, with a t-value of 3.0995. This influence is a positive one, as the path coefficient, $\beta_{IN-BI} = 0.1984$, indicates that an increase in infrastructure is likely to improve the brand image of the business school.

Therefore, the hypothesis (H7) is accepted at a 1% significance level ($t > 2.59$), and it can be determined that infrastructure significantly influences the brand image of the business school. Confirming these results, the study by Aversa et al. (2017) highlights that competing with ordinary resources against disruptive business models and portfolio diversification can play a part in the way an institution is perceived.

Hypotheses tested for research question 8 on emotional factors

The research literature review identified emotional factors a variable that influenced the brand image of the business school from recruiters' perspectives. In a reflective model, emotional factors were proposed to be measured by five determinants, as shown in Figure 19 and Table 19, below. The structural equation model, Figure 5.1, indicated responses to not only the research question, but also to the importance of each of the five dimensions in a holistic view. Their importance was reflected by the loading estimates and the t-values that were brought out by the structural equation model.

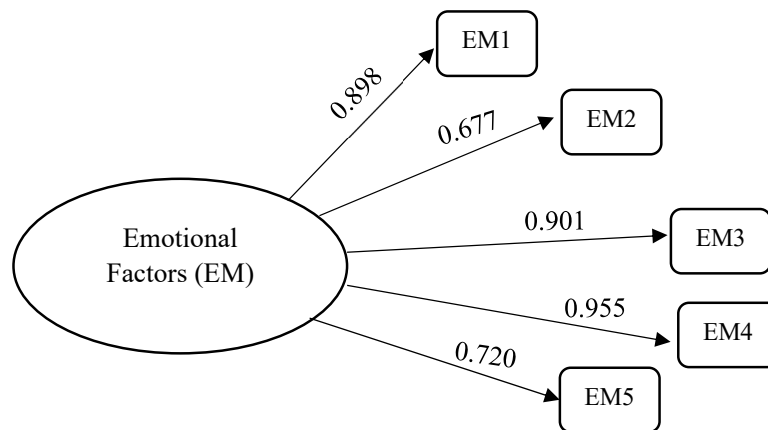


Figure 18: Loading estimates of the determinants of infrastructure

A loading estimate range between 0.5 and less than 0.8 signifies a moderate effect on the independent variable (Zikmund et al., 2013) and above 0.8 signifies a strong effect (Wright, 1934). The following table shows the summary for the determinants' hypotheses tested for emotional factors.

Table 19: Hypotheses tested for the determinants of emotional factors

<p>Research question 8: How emotional factors of a stakeholder of a business school create value to the brand of the business school</p> <p>Hypothesis 8 (H8): The emotional factors with brand value have a significant influence on the brand image of the business school</p>				
No.	Determinant hypotheses	Loadings > 0.8 Strong 0.5 < L < 0.8 Moderate	t-values t > 2.59 strongly significant	Inference on loadings
H8a	Brand image reflects self-respect of the student	0.8985	76.2883	Strong
H8b	Brand image ensures secured employability	0.6768	14.3606	Moderate
H8c	A degree from reputed business school gives sense of fulfillment	0.9005	76.5891	Strong
H8d	Business school life reminds memories of 'fun' and 'enjoyment' in life	0.9554	113.0186	Strong
H8e	I should feel an emotional connection to the business school	0.7202	27.4857	Moderate

Hypothesis 8 (H8) to test the effect of emotional factors (EM) on brand image of the business school

H8: Emotional factors have a significant influence on the brand image of the business school

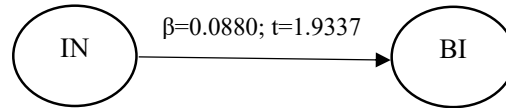


Figure 19: Effect of infrastructure on brand image of business school

Table 19 on the direct effects inference indicates a moderate relationship between emotional factors and brand image of business school, with a t-value of 1.9337. This influence is a positive one, as the path coefficient, $\beta_{EM-BI} = 0.0880$, indicates that an increase in emotional factor is likely to increase the brand image of the business school. Therefore, the hypothesis (H8) is accepted at a 10% significance level ($t > 1.65$), and it can be determined that emotional factors moderately influence the brand image of the business school. The study by Troedson and Dashwood (2019) confirmed these findings by narrating status, personal factors of self-efficacy, preparedness and other insights by students are crucial in getting a sense of satisfaction from a business degree.

The outcomes and measures of this research represent the benefits of the study. Of the five research outcomes determining the brand image of the business school from recruiter's perspective, four showed a strong influence and one showed a moderate influence.

Recruitment of talented employees: Auger, Devinney, Dowling, Eckert, and Lin (2013) found that recruiting talented graduates are a critical driver of corporate recruitment involving extracting more attractive graduates from a larger pool of potential employees with the mix of organisational and job attributes required for the position. These recruiters further ensure that the recruiting process is more appealing to talented graduates by showcasing attractive workplace environments that are more likely to attract graduates. The outcome of this research confirms this

this by recording the path co-efficient of 0.954 which signifies a strong influence on talented employees.

Alumni performance: The study by Rahma and Imsar (2019) shows that the stakeholders were satisfied with the alumni performance by scoring them highly on assessment tools. The study found that the attributes that needed to be improved included the quality of alumni, and more specifically, their communication skills, professionalism, leadership and mastery of technology. Graduates who have the ability to compete in the global era, and who have a noble personality and character are seen as able to become pioneers and leaders in the future of globalization in the corporate sector. The outcome of this research confirms this by recording the path co-efficient of 0.983 which signifies a strong influence on alumni performance.

Assurance of transparency: Raju, Ahmad, and Aryasri (2019) indicated the accountability and transparency of business schools could be achieved through the development of an independent professional body of assessors to evaluate the standards of assessment practices for quality assurance. This is in line with the findings of this study with a path co-efficient of 0.892. The authors further stated that the quality assurance of a business school includes setting a high standard of question papers, raising the entry qualifications, practical learnings, lively content, employability skills, business skills, multi-dimensional assessments, internships and raising the standards of acquisition of knowledge.

Quality graduates: Gopalan, Khojasteh, and Cherikh (2010) indicate that both extrinsic and intrinsic factors were revealed from effective responses of business school students. Faculty members encouraged active participation in order to motivate the students. The students are also asked to provide their opinion in order to express their thoughts and feedback as an instrument to ensure continuous improvement in teaching. Faculty staff who have excellent teaching skills in their fields transfer knowledge to their students, and invoke a sense of belonging, energy and enthusiasm within the cohort. In this sense, the profile of the faculty plays an

important role. This is in line with the findings of this study with a path co-efficient of 0.986.

Disruptive technologies: Business Schools have committed significant investment in adopting disruptive technologies under virtual learning environments (VLE) which is being universal (Tanwar, Tanwar, Prasad, & Prasad, 2017). These disruptive technologies are not designed explicitly to support learning and teaching in higher education but have educational potential. In this research, the survey answers tended to endorse Disruptive Innovation theory, with participants incorporating meanings for technologies through their use of them, rather than keeping with a designer's intentions. Every morning brings a new day. Every morning brings a new technology leading to continuous disruption. Business Schools are live in eliciting self-awareness of these technologies for the possible use by the graduates. This is in line with the findings of this study with a path co-efficient of 0.697.

5.5 Summary of the analyses of all hypotheses

All the direct relationships were empirically proven to have significant influence on the dependent variable, factors influencing the brand image of a business school from recruiters' perspective. The four variables with the significant influence were:

- expectation of recruiters ($\beta_{ER-BI} = 0.1411$; t-value = 2.5476),
- alumni quality ($\beta_{AQ-BI} = 0.1469$; t-value = 2.6338)
- placement record ($\beta_{PR-BI} = 0.1423$; t-value = 2.2423)
- governance ($\beta_{GV-BI} = 0.0961$; t-value = 1.6812)
- reputation of b-school ($\beta_{RB-BI} = 0.0615$; t-value = 1.5574)
- faculty competency ($\beta_{FC-BI} = 0.1012$; t-value = 2.3090)
- infrastructure ($\beta_{IN-BI} = 0.1984$; t-value = 3.0995)
- emotional factors ($\beta_{EM-BI} = 0.0880$; t-value = 1.9337)

One independent variable, reputation of business school, was statistically observed to have an insignificant influence on the brand image ($\beta_{\text{RBBI}} = 0.0615$; t-value = 1.5574). Thus, this variable reflected the slow responsiveness of business schools towards initiating steps to enhance the reputation of the business school.

As can be seen above, infrastructure emerged as the variable with the strongest direct influence on brand image, followed by alumni quality and expectation of recruiters, in that order.

5.6 Conclusion

This chapter provided the results of the data analysis using ADANCO 2.0.1. This predominantly highlights the backbone of ADANCO – namely; Structural Equation Model (SEM) showing path coefficients, p-values and t-tests for hypotheses testing. All eight hypotheses were tested through SEM to prove the significant relationship. Seven out of eight hypotheses were accepted and one hypothesis (for ‘reputation of the business school’) was not accepted. The next chapter reviews the meaning of these results, with a focus on summarising the thesis in its entirety. The next chapter will also consider the contribution of this research to theory, implications for practice, and implications in industry.

CHAPTER 6: DISCUSSION

6.1 Introduction

The previous chapter covered the data analyses and explored the outcomes of hypotheses testing. In this project, in addition to testing the main hypotheses, sub-questionnaire items of the main constructs were also included to ensure validity and reliability. In this chapter, a discussion is provided so as to explore how the variables of the study concurred with the prior research and the reasons for arriving at such an outcome.

6.2 Expectations of recruiters

The hypothesis that expectations of recruiters positively influence brand image is accepted in this study ($t=2.5476$). As the t value is > 1.96 , the probability of error was less than 5%, and therefore the acceptance is at 95% confidence interval, showing statistical significance.

In asserting this hypothesis, four key variables were used – quality of students, quality of curriculum, applied business knowledge and the location of the Business School. These four attributes were found to significantly contribute to the hypothesis acceptance, and recruiters indicated that they valued these four factors in arriving at a positive perception of a Business School.

In this context this study agrees with Albright (2019) and Nusrat and Sultana (2019), among others. Prior studies have clearly indicated that recruiters value the quality of education in order to perform a given job. In addition to this education, prior studies have indicated that skills that commensurate with the job are also essential, indicating that both knowledge and skills are essential for a business graduate (Jones et al., 2017); (Albright, 2019). There is evidence that recruiters have agreed with this notion strongly.

This study also agrees with Porter and Stern (2001) in that physical location is a key factor in influencing recruiters' overall perception. Location, especially in the proximity of industries, is singled out by Porter & Stern to generate and commercial

innovative ideas. This study has found location to be a significant predictor in influencing recruiters' perception ($t=15.8620$). One reason for this strong value could be the 'visibility' of the physical building with signage so that recruiters take notice of the Business School. The location also provides easy access to students as recruiters like to access the available knowledge pool that is closer to them. These reasons could have influenced recruiters in selecting this attribute as a significant factor. Social factors, such as the minimal need for physical relocation of new employees may also play a role in this finding.

6.3 Alumni quality

In this study the construct Alumni Quality was comprised of the domains of knowledge, trust and skills, alumni performance in the workplace, leadership quality, leadership efficacy, and timely decision-making skills. These attributes underpinned the hypothesis that the quality of alumni has a significant influence on brand image. The statistical test returned a t value of 2.6338 indicating strong support in accepting the hypothesis.

The t test conducted on individual questionnaire items indicated that knowledge and trust and skills showed moderate strength, and all other sub-domains within the construct showed a strong association with brand image. Hence, this study concludes that alumni performance in the workplace, leadership quality, leadership efficacy and timely decision-making skills are strongly contributing to Alumni performance in order to influence the brand image of a business school.

Prior studies have found that alumni are one of the most important assets of a business school as they can project a positive image. Further, high profile alumni can leverage this positive image by participating in the management processes (STRAUJUMA & GAILE-SARKANE, 2018). In this study, statistical evidence supported this notion, and therefore agreed with this viewpoint.

In terms of leadership attributes, this study agrees with Hiller (2018) in that the leadership qualities found in alumni will positively influence the brand image of a Business School. The questionnaire item on leadership of alumni was strong

($t=134.1090$) indicating a strong significance. The participants in this study have expressed that the leadership qualities of alumni in tackling crucial problems within the organisation is a vital factor in determining the brand image of an institution. Prior studies have stated that an effective leader will be a strong communicator, as well as a decision maker (Mayfield & Mayfield, 2017), agreeing with the notions expressed by the participants in this study. In addition, an effective leader will be competent and efficient (Jain et al., 2018) and this study concurs with this notion through the results of the questionnaire.

6.4 Placement record

In this study, the hypothesis that tested the influence of the placement record on the brand image was found to be strong ($t=2.2423$). The quality of internship, competitive advantage, salary and company profile and standing were attributes that were found to be strong. Interestingly, salary was found to be a factor that was only moderate in terms of statistical strength.

This study agrees with prior studies that the placement record of a business school is an influential factor in its overall brand image ((Lin, 2019); (Khan & Azam, 2017)). Prior studies have argued that placement record is a successful predictor in determining the brand image of a Business School, and that effective strategies to gain competitive advantage is a key attribute in this regard. This study showed strong evidence in this aspect through statistical modelling and outcomes. However, this study digressed from the notion of Giraud et al. (2019), specifically in starting salary, and this variable was found to be of moderate strength ($t=0.737$, load value = 24.35). One reason for this deviation could be that there is no standardisation in salary terms among the population surveyed. Further, in the context of this study, there is a large variability in salary and the salary depends upon whether an organisation that is recruiting is domestic, multi-national, metropolitan or regional. These variations could have differentiated the outcome of this study. Further, Giraud et al. (2019) measured the median postgraduate salary and the recruiters of this study were specific about graduate salaries, another difference which may have contributed to

the divergence in outcomes. Support of the findings in this study were found in Shenoy and Aithal (2016) in that the approaches to recruit graduates is vastly different in multinational companies, and their base salary is higher than local organisations.

6.5 Governance

In terms of governance, this study found support for the hypothesis that a good governance framework positively influences brand image ($t=1.6812$). The governance was measured in terms of organisational structure, reporting, reporting relationships, policy framework and sustainable growth. All these variables were been found to be strong contributing factors in supporting the hypothesis.

Prior studies such as Spender (2016) indicated that while the governance framework can vary between institutions, recruiters perceive that good governance leads to higher performance standards, and hence stronger graduate outcomes. This in turn improves the employability, and consequently, the brand image of the school. In this context, this study concurs with Spender (2016).

However, in recent times, governance can also include Corporate Social Responsibility. While governance is essential to ensure and assure sustained growth, Chi6n et al. (2019) indicate that appropriate processes that sit beneath the Governance framework are also essential for growth. These include many validated procedures and processes, which may vary between private and public business schools and may depend upon various legislative procedures. This is reflected in the moderate strength of association in terms of government accreditations and compliance in this study.

Prior studies indicated that a reporting framework is also essential for superior governance ((Andriof et al., 2005); (Herremans et al., 2016)) and in the context of this study, the reporting framework can differ based on state legislation and other compliance frameworks, introducing variations and therefore divergence in outcomes. This could be a reason why this study differed in its outcomes when compared with prior studies.

This study did not find strong explicit evidence for Corporate Social Responsibility. While this has been discussed in the literature, it would appear that graduate outcomes, processes, procedures, teaching and research quality all appear to take precedence over Corporate Social Responsibility. A reason for this could be that educational institutions are expected to adhere to this principle.

6.6 Reputation of the Business School

The hypothesis that the reputation of the Business School influences the brand image is upheld in this study ($t=1.557$). In this study, reputation was measured in terms of accreditations, quality assurance, teaching & learning methods, use of digital technologies and research quality. While strong statistical evidence was found for many factors, governmental accreditations and compliance were found to be moderately influencing the hypothesis.

This study supports the ideology that professional accreditation improves the image of a Business School, which contributes to the overall brand image. The same cannot necessarily be applied to governmental accreditation, however, and it would appear that this is due to the lack of transparency associated with this process. This study was able to provide evidence that recruiters valued professional accreditation rather than the internal government accreditation and compliance schemes, which in large part was due to the clear communication about the processes and standards involved with professional accreditation schemes. Prior studies such as Zhao and Ferran (2016) and Kelchen (2017) have already indicated that professional accreditations provide a quality ranking to Business Schools and recruiters trust this ranking while recruiting graduates. Further, Prasad et al. (2019) state that in order to attract quality academics, these professional accreditations are essential, and this study provides support to this notion in the hypothesis tested.

This study agrees with Chibuike (2018) that quality assurance schemes are essential in upholding the relevance and currency of the curriculum. Recruiters also look for this aspect while approaching institutions to recruit students, and this study was able to provide strong support to this notion. Similarly, innovative teaching methods were

considered to be essential components in the quality of a Business School and in this context this study concurs with Ahmad et al. (2018).

6.7 Faculty competency

The hypothesis that faculty competency influences a Business School is strongly supported in this study ($t=2.3090$). The faculty competency was measured in terms of qualifications, experience, research, and student-faculty ratio. These factors showed strong validity and relevance in the measurement.

Prior studies indicated that the competency of a faculty is an essential factor contributing to the brand image of a Business School ((Venkat, 2019); (Horn et al., 2016)) and this study agrees with prior research in this regard. Within this context, there are various views as to what competency refers to. Some studies measure teaching quality, while others measure research quality. In this study, both factors – teaching and research – were found to be strong indicators of faculty competency, and hence this study asserts that both teaching and research are essential in determining the quality of a faculty. The teaching-research nexus is essential to translate relevant industry specific knowledge to students of Business Schools so that they are ready for employment.

In addition to research, this study found that other modes, such as publications, are also essential in determining the research quality of a faculty. In this context, this study agrees with C. Y. Huang (2018) who stated that patents are also essential as these lead to intellectual property claims, and these claims improve the brand image. This study found strong support for the notion.

6.8 Infrastructure

The influence of infrastructure available in Business Schools on its brand image is strongly supported in this study ($t=3.0995$). This construct consisted of location, resources, physical buildings, ICT and research centres. The participants in this study indicated strong support for these factors influencing brand image, leading to the acceptance of the hypothesis.

Prior studies have indicated that positive brand image is associated with high quality infrastructures ((Murthy & Kumar, 2017); (Hornsby, 2017)). These studies have pointed out that cutting edge infrastructure including modern classrooms, ICT access and facilities such as incubators enable the faculty to impart sound knowledge to its students. Further, the association of business schools with research centres enables Business graduates to be competitive, and this is transformed into high quality employment on graduation. These factors influence the brand image of a Business School. This study has found evidence to support these notions.

Location is strongly rated in this study (0.8958 load value) with a loaded t-value of 76.2883. This is one of the highest values in the cohort of attributes considered within this study. Prior studies such as Hornsby (2017) have highlighted the role of location in determining the brand value of a business school. This study found strong support for location, indicating the proximity to various facilities is a key determinant in making a business school visible, and hence the successful leveraging of brand value. Further, the students appear to prefer a school that has easy access to many other facilities within close proximity. In this context, this study agrees with many prior studies as identified in the literature review chapter.

6.9 Emotional factors

The hypothesis associated with the influence of emotional factors on a business school's brand image consisted of evaluating perspectives on self-respect of a student, secured employment, sense of fulfilment, pleasant memories and emotional connection. These factors returned a collective t-value of 1.9337 and the hypothesis was accepted at a 90% confidence interval. Thus, the hypothesis testing concluded that these factors moderately influence the brand image of a Business School.

While the outcomes of this study are in agreement with prior studies ((Ciulla, 2020); (Goldson, 2018); and (Young et al., 2019)), it was not clear in the literature whether these factors were real factors or surrogate factors. For example (Ciulla, 2020) indicates that self-respect is a surrogate for ethics. Further, many emotional factors are subjective and time sensitive. Hence, even though the emotional factors have a

moderate influence on the brand image of a business school, this study did not delve into detailed discussion about these issues.

6.10 Conclusion

The outcomes of hypotheses testing indicated that some constructs are strongly associated with influences on brand image while others were found to be moderate. All the constructs tested exhibited at least a 90% confidence interval and, in this sense, the eight major constructs appear to have influence over the brand image of a business school. Further, the outcomes agree with many prior studies, supporting the notion that setting directed hypotheses was an appropriate choice.

The next chapter revisits the salient points within this thesis and explores limitations and scope for future improvement.

CHAPTER 7: CONCLUSION

The main proposition of this thesis was to consider the factors that influence brand image of a business school from a recruiter's perspective. In this context, a comprehensive literature survey was conducted to identify eight key factors that influence recruiters' perceptions. These factors were:

- a) Expectations of recruiters
- b) Alumni quality
- c) Placement record
- d) Governance
- e) Reputation of Business School
- f) Faculty competency
- g) Infrastructure
- h) Emotional factors

These factors were further explored to identify the key attributes that affect these factors. From the literature review, the key attributes influencing these factors were extracted from the literature as presented below:

Table 20: Summary of constructs and attributes

Construct	Attributes
1. Expectation of recruiters	<ul style="list-style-type: none">• Quality of the students• Quality of curriculum• Applied business knowledge• Location of the business school
2. Alumni quality	<ul style="list-style-type: none">• Knowledge, trust and skills• Alumni performance in workplace• Leadership quality• Effective leader doing right things• Timely speedier decisions
3. Placement record	<ul style="list-style-type: none">• Quality of internship

	<ul style="list-style-type: none"> • Competitive edge of the business school • Pre-graduation salary • Post-graduation salary • Placement in multinational companies (MNCs)
4. Governance	<ul style="list-style-type: none"> • Organisational structure • Reporting relationship • Dual subordination • Conflict of interest • Social diversity
5. Reputation of Business School	<ul style="list-style-type: none"> • Government accreditations • Accreditation by professional associations • Quality assurance • Teaching methods • Digital learning devices • Research quality
6. Faculty competency	<ul style="list-style-type: none"> • Qualification of faculty • Faculty experience • Research quality • Publications • Patents • Student-faculty ratio
7. Infrastructure	<ul style="list-style-type: none"> • Location of the business school • Resources • Building • IT infrastructure • Centres of excellence
8. Emotional factors	<ul style="list-style-type: none"> • Self-respect of the student

	<ul style="list-style-type: none"> • Secured employability • Sense of fulfillment • Work-life balance • Emotional connections
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These eight factors were then investigated through eight hypotheses, and then tested through a qualitative survey instrument. The survey resulted in a total of 438 datasets for analysis using a Partial Least Square software application (ADANCO).

The hypotheses testing indicated that all hypotheses were accepted. The following table provides a summary of the research question set, associated hypothesis and the outcome of testing.

Table 21: Summary of hypotheses testing outcome

Research question & Hypothesis	Outcome of testing
<p>Research question 1: How the level of applied business knowledge is important for the business school to enhance its brand image among the recruiters?</p> <p>Hypothesis 1 (H1): The expectation of recruiter to evaluate the level of applied business knowledge by students has a significant influence on brand image of the business school</p>	Accepted (t=2.5476)
<p>Research question 2: How do recruiters measure the quality of alumni of a business school with brand image which is reflected in the day to day performance of the alumni</p>	Accepted (t=2.6338)

<p>Hypothesis 2 (H2): The quality of alumni with day-to-day performance has a significant influence on the brand image of the business school</p>	
<p>Research question 3: What are the essential features which are the determinants of an impressive placement record?</p> <p>Hypothesis 3 (H3): The placement record with high profile Fortune 500 companies has a significant influence on the brand image of the business school</p>	<p>Accepted (t=2.2423)</p>
<p>Research question 4: How do ethical practices and Corporate Social Responsibilities framed by business schools play an important role in determining good corporate image for the business school?</p> <p>Hypothesis 4 (H4): The governance structure of a business school with ethical practices and CSR has a significant influence on the brand image of the business school</p>	<p>Accepted (t=1.6812)</p>
<p>Research question 5: Why do recruiters consider good quality assurance with prestigious governmental as well as professional accreditations such as AACSB, EQUIS, AMBA & ABEST21, as the backbone of the brand image of the business school?</p> <p>Hypothesis 5 (H5): The quality assurance with prestigious accreditations has a significant influence on the brand image of the business school</p>	<p>Accepted (t=1.557)</p>

<p>Research question 6: What are the pivotal factors for determining faculty competency commensurate with brand image of business school?</p> <p>Hypothesis 6 (H6): Faculty competency with rich qualifications and research calibre has a significant influence on the brand image of the business school</p>	Accepted (t=2.3090)
<p>Research question 7: How infrastructure plays a significant role in building brand image of the business school?</p> <p>Hypothesis 7 (H7): The infrastructure of the business school with location, resources and technology has a significant influence on the brand image of the business school</p>	Accepted (t=3.0995)
<p>Research question 8: How emotional factors of a stakeholder of a business school create value to the brand of the business school</p> <p>Hypothesis 8 (H8): The emotional factors with brand value have a significant influence on the brand image of the business school</p>	Accepted (=1.9337)

It can be seen from the above table that some hypotheses had a strong t-value indicating the strength of their association. For example, hypotheses 1, 2 3, 6, and 7 returned a higher t-value than hypotheses 4, 5, and 8.

Hypotheses 4, 5 and 8 measure the influences of ethical practices, quality assurance and emotional factors respectively. These are subjective elements and vary between business schools and students. Further, some of these factors are dependent on many external factors. In the discussion chapters, evidence from prior studies was

provided to highlight that internal, government accreditations are felt to be inferior when compared with external professional accreditation standards. Similarly, ethical constructs contained attributes such as corporate social responsibility, which can be subjective and difficult to measure accurately. The emotional factors were also found to be subjective and relied heavily upon the make-up of the individual answering the questionnaire rather than a standardised approach. While these factors contributed to the brand image in the eyes of the recruiters, due to the variations in how these factors were perceived, their influences appear to be weaker.

On the other hand, the key influences impacting upon a graduate for employment appears to be the quality of the curriculum, alumni standing within the organisation, applied business knowledge, faculty competency, physical location of the campus and access to high-quality research infrastructure. As these constructs are directly linked with educational quality, recruiters see them to be essential in determining brand image.

Prior studies have attested to these factors. What is unique in this study is that the study was conducted in a specific region where recruiters approach graduates for both domestic and overseas employment opportunities. Further, the education system is vastly different in the sense that they are not regulated under one uniform standard. In the context chosen, depending upon where the Business School is situated, either the state body, or a federal body, or an autonomous consortium might dictate standards, and despite these variations, the outcomes of this study agreed with prior studies.

A unique contribution of the study is approaching recruiters and testing the various propositions through their collective lens. Through the qualitative survey, this study was able to establish the strengths of the eight constructs identified through the literature review, with additional overall contribution to the domain.

In essence, this study can assert that the eight constructs identified through literature review hold good under statistical scrutiny. The following table provides a summary

of how these constructs influence the brand image of a Business School from recruiters' perspectives:

Table 22: Summary of individual item factor strength

Construct	Attributes	Strength
1. Expectation of recruiters	• Quality of the students	0.8507
	• Quality of curriculum	0.8225
	• Applied business knowledge	0.9416
	• Location of the business school	0.8217
2. Alumni quality	• Knowledge, trust and skills	0.7372
	• Alumni performance in workplace	0.9357
	• Leadership quality	0.9662
	• Effective leader doing right things	0.9692
	• Timely speedier decisions	0.9462
3. Placement record	• Quality of internship	0.9645
	• Competitive edge of the business school	0.9357
	• Pre-graduation salary	0.9662
	• Post-graduation salary	0.9692
	• Placement in multinational companies (MNCs)	0.9462
4. Governance	• Organisational structure	0.8911
	• Reporting relationship	0.8147

	<ul style="list-style-type: none"> • Dual subordination • Conflict of interest • Social diversity 	<p>0.7562</p> <p>0.9421</p> <p>0.9482</p>
5. Reputation of Business School	<ul style="list-style-type: none"> • Government accreditations • Accreditation by professional associations • Quality assurance • Teaching methods • Digital learning devices • Research quality 	<p>0.7709</p> <p>0.9450</p> <p>0.7937</p> <p>0.9236</p> <p>0.8371</p> <p>0.9534</p>
6. Faculty competency	<ul style="list-style-type: none"> • Qualification of faculty • Faculty experience • Research quality • Publications • Patents • Student-faculty ratio 	<p>0.8219</p> <p>0.8140</p> <p>0.9707</p> <p>0.9701</p> <p>0.9700</p> <p>0.8313</p>
7. Infrastructure	<ul style="list-style-type: none"> • Location of the business school • Resources • Building • IT infrastructure • Centres of excellence 	<p>0.8958</p> <p>0.9199</p> <p>0.9004</p> <p>0.9093</p> <p>0.9249</p>
8. Emotional factors	<ul style="list-style-type: none"> • Self-respect of the student • Secured employability • Sense of fulfilment • Work-life balance • Emotional connections 	<p>0.8985</p> <p>0.6768</p> <p>0.9005</p> <p>0.9554</p> <p>0.7202</p>

7.1 Limitations of the Research

This research comes with the following limitations:

1. The research followed a positivist, survey-only approach. By taking a sequential explorative qualitative-quantitative approach, additional critical insights could have been obtained.
2. The research tested recruiters' perception of traditional student markets. This included mainly students studying on campus. The COVID-19 situation has highlighted some new alternatives, and it could be worthwhile exploring the difference between in-person and online cohort differences in terms of brand image.
3. While this study explored recruiters' perspectives of students, the study did not explore whether there is any bias in terms of institutional standing. Recent articles in the media (Times Higher Education) discuss institutional bias, specifically called the 'Oxbridge bias' indicating the preferential treatment recruiters place when considering brand image and its influence in recruiting students. However, a recent pilot study indicated that graduates from other universities appear to perform better in terms of employability ranking when their institution details are blinded at the time of presenting their credentials.
4. The study was conducted only in one context. This has some homogeneity in the cohort. This is again another bias in the study.
5. The study specifically looked at brand image within business schools. However, many Business programs are offered as inter-disciplinary programs, which is likely to affect overall perception and image. This selection bias is noted in this study.
6. **Post-COVID19 impact** - It won't impact any changes in the predictions except the infrastructure and the faculty competency of the business school. Infrastructure may undergo radical changes in terms of disruptive technologies while delivering the virtual classes. These necessities a well-

organised training and development programs for the faculty fraternity. Post COVID-19 situation could prepare the business schools in predicting any other pandemic situations in future.

7. **Scope to research on the role of employee satisfaction** - A satisfied employee would maintain good relationship with customers while rendering their day-to-day services. A quality service by employees would influence the customer-centricity which in turn creates a favourable brand-image of the business school from recruiter's perspective. In a business school employee include both academic and administrative cadres. Well balance between academic and administrative cadres would create powerful product image which is the cornerstone of corporate and brand image. Ultimately, the brand image creates the popularity among stakeholders of the business school. In order to strengthen the customer satisfaction, business schools need to serve the stakeholders to identify solutions to the problems. In this connection number of studies have shown a link between employee satisfaction and performance of a company. Harter et al. (2002) highlighted the positive link between employee engagement a successful performance of a business. This view was further supported by Wangenheim et al. (2007). The successful performance of business school is evidenced by brand image of the business school.

7.3 Future Progress

Considering the limitations of this study identified above, it is possible to improve this project with a view to expanding the scope of the study and therefore the generalisability of results. The following points provide some initial thoughts as to how this research could be progressed in the future:

1. As indicated, a qualitative-quantitative spectrum would complement survey results with rich conversations so that recruiters' perspectives could be understood with more clarity. Such an understanding would help academics to comprehend what the market requires – in terms of skills and knowledge

- of a graduate and would allow for a more comprehensive approach to developing such skills in a graduate.
2. The research provided strong evidence that physical location is a key determinant. In addition to this, access to research infrastructure also returned a strong statistical value. Considering these two items received strong support, future studies might be able to segment business schools that are able to supplement these attributes and those that do not. Such knowledge will help to inform business school administrators as to how the academic-industry nexus can be built to benefit student learning.
 3. The research identified a weaker association in terms of the emotional factors influencing brand image. The attributes leading to the emotional constructs, as extracted from the literature requires some further validation and consideration of more accurate ways to measure the impact of this domain. While this study considered recruiters' perspectives in this regard, conversations with student communities will help to solidify the various attributes leading to the construct, as this could be context dependent. Further, depending upon individual experiences, students might place a different value on the strengths of these attributes. So, arriving at a set of attributes leading to emotional factors, and then scientifically normalising the same would be a significant contribution to a study of this nature.
 4. There are reports emerging in Australia that students studying in regional areas stay in the area after graduation, thereby contributing to the economic growth of regional populations. This study did not explore such factors. If such factors are indeed valid, then the perspective of employers could change, especially in recruiting students. As this trend has only recently come to the forefront, future studies can explore this dichotomy.
 5. Current perspectives appear to be subjective and recent trends indicate that tools such as artificial intelligence (AI) could assist recruiters in arriving at an evidence-based judgement on the overall employability of a student. Future studies could examine this option.

In conclusion, this study examined the factors that influence recruiters' perception of business school brand image. This study identified eight specific constructs and associated attributes and validated them with a survey instrument. All eight constructs were validated with a 90% confidence interval, with four constructs exhibiting a 95% confidence interval.

Thus, in evaluating the brand image of a business school, recruiters will focus on alumni quality, the placement record of the institution, governance structure, reputation of the school, faculty competency, infrastructure, and emotional factors to arrive at an overall perception of the graduates from the school. This study has demonstrated that these factors all positively influence recruiters' perceptions and has identified the domains in which an institution's brand image can be targeted.

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APPENDIX 1: SURVEY QUESTIONNAIRE

IMPACT OF BRAND IMAGE OF THE BUSINESS SCHOOL:

FROM THE RECRUITER'S PERSPECTIVE

Dear Sir / Madam,

Thank you for agreeing to fill this questionnaire by sparing your valuable time.

This questionnaire is a part of my DBA thesis on above topic. This research is intended to explore and examine impact of Brand Image of the Business School: From the recruiter's perspective.

Your feedback is important in devising an original and valuable thesis. Your responses will also help expand this area of study. The information you provide will be kept strictly confidential.

The factors influencing recruiter's perception of the brand image of the business school:

1. Expectations of recruiters
2. Alumni quality
3. Placement record
4. Governance
5. Reputation of Business School
6. Faculty competency
7. Infrastructure
8. Emotional factors
9. Outcomes / Measures

All questions have been created from existing available literature on this and related topics.

Yours Sincerely,

Srinivas Phani Kavuri
 Research Scholar
 University of Southern Queensland

Main Questions

		<u>Level of Agreement</u>				
Likert scale of measurement →		Not Important	Disagree	Neutral	Agree	Very Important
Expectation of Recruiters		1	2	3	4	5
ER1	Quality of the students of business school					
ER2	The structure and quality of curriculum					
ER3	Image of the business school					
ER4	The level of applied business knowledge imparted					
ER5	The location of the business school					
	RQ: How the level of applied business knowledge is important for the business school to enhance its brand image among the recruiters?					

	RO: To evaluate the level of applied business knowledge acquired by students of the business school as an important yardstick for recruiter					
	ALUMNI QUALITY					
AQ1	Knowledge acquired by the students					
AQ2	Performance at workplace					
AQ3	Leadership quality of alumni in tackling crucial day to day issue					
AQ4	Timely and speedier decision making					
AQ5	To be an effective team-member of the organization					
	RQ: How do recruiters measure the quality of alumni of a business school with brand image which is reflected in the day to day performance of the alumni RO: To evaluate the quality of the alumni of the business school with brand image which reflects in the day to day performance of the alumni					
	PLACEMENT RECORD					
PR1	Students get placement within 3 months					
PR2	The quality of internships is reflected in the brand of the business school					
PR3	Quicker placement is evidence of competitive edge in the employment market					

PR4	Pre-graduation salary					
PR5	Salary after 5 years of graduation earned					
PR6	Placement by companies of Fortune 500					
	<p>RQ: What are the essential features which are the determinants of an impressive placement record?</p> <p>RO: To evaluate the determinants of impressive placement by reputed business school by placing students in high profile Fortune 500 companies</p>					
	GOVERNANCE					
GV1	Separation of ownership and staff & academics					
GV2	Clear organisational structure distinguishing the administration, academic and senior management					
GV3	Clear reporting structure at all level (Academic, Admin..)					
GV4	Clear-cut policies to avoid conflict of interest					
GV5	High level of transparency					
GV6	Social diversity					
GV7	Financial stability					
GV8	Ethical Practice at all levels					
GV9	Corporate Social Responsibility					

	<p>RQ: How do ethical practices and Corporate Social Responsibilities framed by business schools play an important role in determining good corporate image for the business school?</p> <p>RO: To analyse ethical practices and Corporate Social Responsibilities provided by the business school as a valuable indicator for the corporate image of the business school</p>					
	REPUTATION OF BUSINESS SCHOOL					
RB1	Global Ranking					
RB2	Government Accreditation					
RB3	Professional accreditation (AACSB, EQUIS, AMBA & ABEST21)					
RB4	Quality assurance system for teaching and learning					
RB5	Use of digital learning devices					
RB6	Research output and quality					
	<p>RQ: Why do recruiters consider good quality assurance with prestigious governmental as well as professional accreditations such as AACSB, EQUIS, AMBA & ABEST21, as the backbone of the brand image of the business school?</p> <p>RO: To appraise the various quality assurance schemes of the business school with different</p>					

	kinds of accreditations as the backbone of the brand image of the business school					
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	FACULTY COMPETENCY					
FC1	Academic and professional qualification of faculty					
FC2	Faculty experience					
FC3	Number of publications by Faculty					
FC4	Faculty research quality (Journal rating)					
FC5	Number of patents					
FC6	Student-faculty ratio					
	<p>RQ: What are the pivotal factors for determining faculty competency commensurate with brand image of business school?</p> <p>RO: To assess the extent of educational qualifications, experience and research caliber of the faculty as a determinants of faculty competency</p>					
	INFRASTRUCTURE					
IN1	Location of the business school					
IN2	Academic Facilities and Infrastructure (labs / library/sports/ Software)					
IN3	Student-friendly architecture					
IN4	Comprehensive usage of cloud computing					
IN5	Existence of centers of excellence in various discipline					

	<p>RQ: How infrastructure plays a significant role in building brand image of the business school</p> <p>RO: To assess the factors such as location, resources and technology as the key determinants of brand image of business school</p>					
	EMOTIONAL FACTORS					
EM1	Brand image reflects self-respect of the student					
EM2	Brand image ensures secured employability					
EM3	Brand image represents warm relationship of business school with other stakeholders					
EM4	A degree from reputed business school gives sense of fulfillment					
EM5	Business school life reminds memories of 'fun' and 'enjoyment' in life					
EM6	I should feel an emotional connection to the business school					
	<p>RQ: How emotional factors of a stakeholder of a business school create value to the brand of the business school</p> <p>RO: To analyse the emotional factors of a stakeholder of a business school in adding value to the brand of the business school</p>					

MEASURES OF BRAND IMAGE (OUTCOME / BENEFITS OF RESEARCH)

		<u>Level of Agreement</u>				
Likert scale of measurement →		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
What enhance a business school reputation		1	2	3	4	5
OU1	Recruitment of talented employee					
OU2	Better performance of the alumni					
OU3	100% placement for all students					
OU4	Good Governance of the business school in various dealings of the recruiter					
OU5	Graduates have comparable skill level					
OU6	Faculty competency					
OU7	Competent infrastructure with disruptive technologies					
OU8	Judicious decision making					

Demographic Questions

DQ1	Age in years	<input type="radio"/> 18–30 <input type="radio"/> 31–40 <input type="radio"/> 41–60 <input type="radio"/> 61+
DQ2	Gender	<input type="radio"/> Male <input type="radio"/> Female

DQ3	Location	<ul style="list-style-type: none"><input type="radio"/> Asia Pacific<input type="radio"/> Europe<input type="radio"/> Middle East & Africa<input type="radio"/> America
DQ4	Are you a...?	<ul style="list-style-type: none"><input type="radio"/> Alumni<input type="radio"/> Faculty<input type="radio"/> University management<input type="radio"/> Corporate Recruiter

Thank you for taking your precious time to participate in this survey. Your responses are vital in helping this research study successful. I truly value the information you have provided.

APPENDIX 2: APPROVAL LETTER

The screenshot displays the RIMS Web interface for the University of Southern Queensland. The page title is "Welcome to RIMS Web". The main content area shows an ethics application form with the following details:

- Ethics Category:** Human Research Ethics
- Application Code:** H20REA070
- Version:** [Empty field]
- Application Title:** UNDERSTANDING THE FACTORS THAT INFLUENCE BRAND-IMAGE OF A BUSINESS SCHOOL BRAND: A Recruiter's Perspective
- Primary Contact:** Mr. Srinivas Kavasi
- Primary Committee:** [Empty field]
- Primary Org. Unit:** Faculty of Bus, Edu, Law, Arts
- Start Date:** 15/04/2020
- End Date:** 15/04/2023
- Status:** Approved
- Current?:**
- Confidential?:**

Ethics Dates:

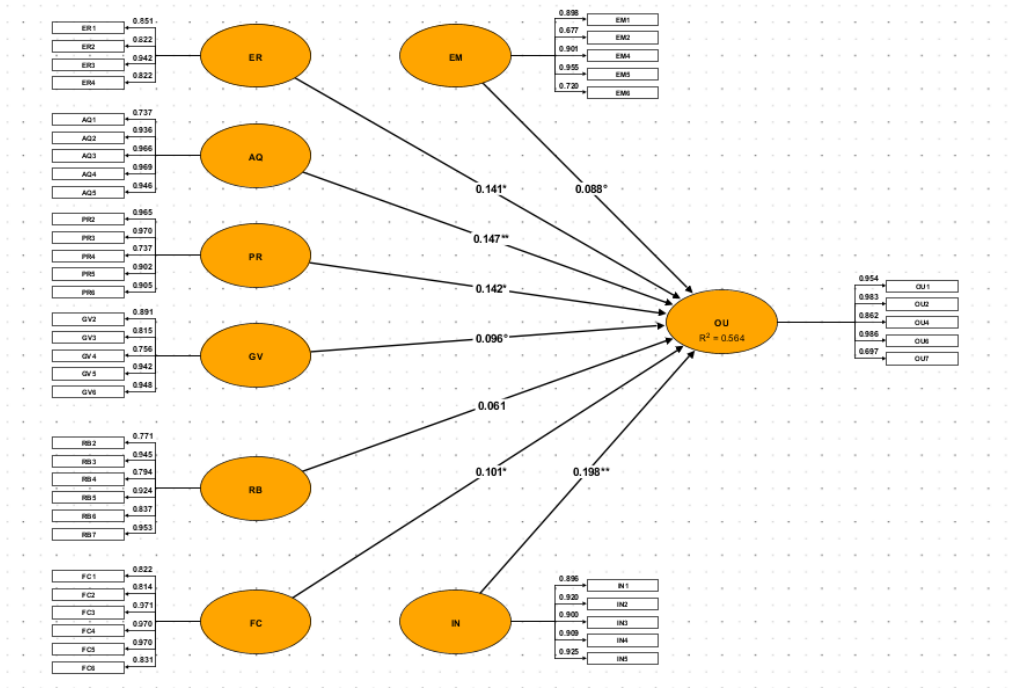
Date Applied	16/03/2020	Date Approved	15/04/2020	Date Reapproved	[Empty field]
Received Date	[Empty field]	Review Date	[Empty field]	Closed off Record?	<input type="checkbox"/>
Date Withdrawn	[Empty field]	Date Closed Off	[Empty field]	Complete?	<input type="checkbox"/>
Date Rejected	[Empty field]	Date Transferred	[Empty field]	Analysis	[Empty field]
File Reference	[Empty field]	Folio Reference	[Empty field]		

Ethics Summary:

- Clearance Purpose:** Low Risk

The browser's taskbar at the bottom shows the date and time as 2:45 PM on 14/12/2020.

APPENDIX 3: ADANCO DATA MODELLING



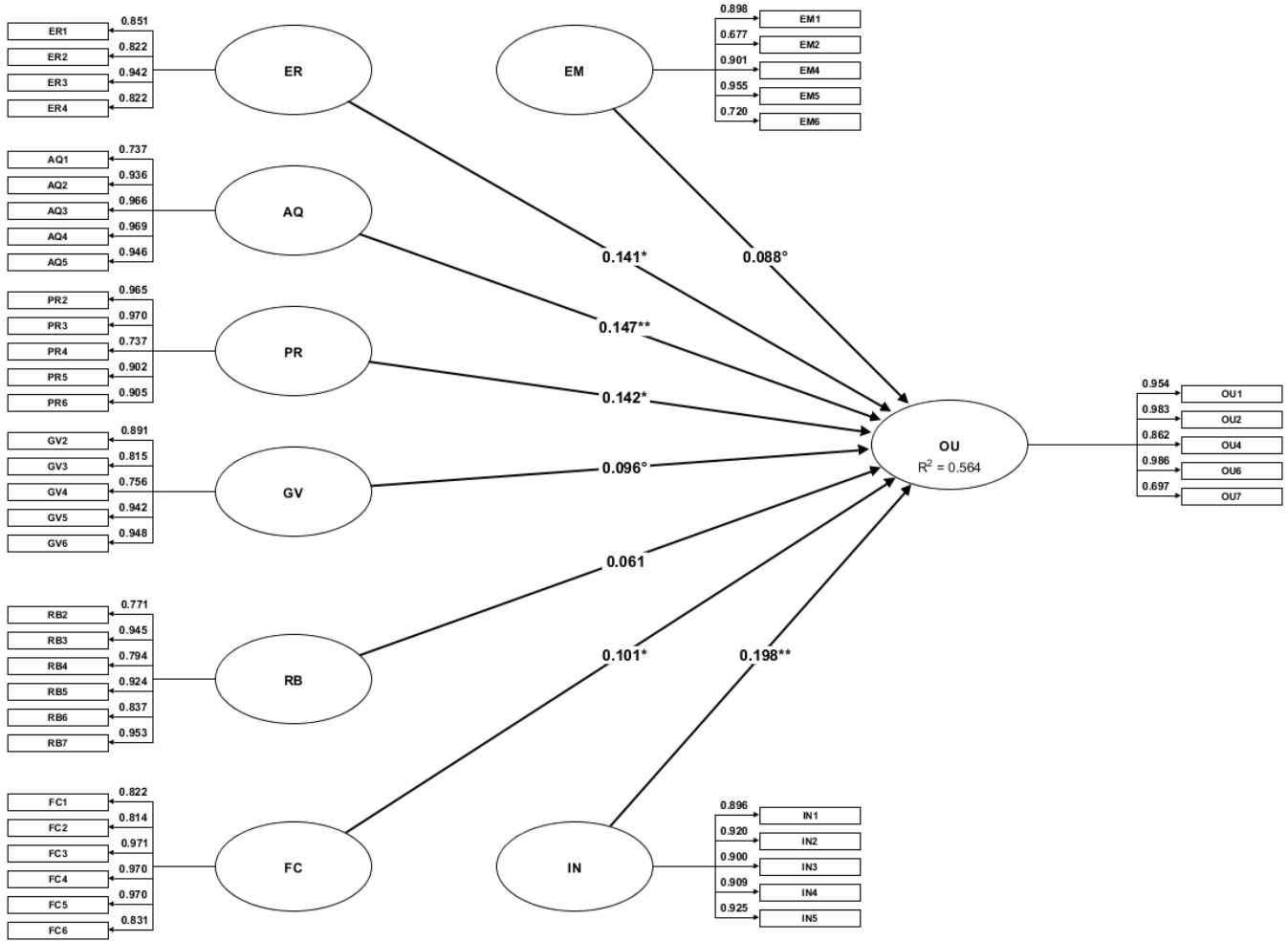
APPENDIX 4: ADANCO DATA ANALYSIS REPORT

Report

Project Information

ADANCO version	This report was created with ADANCO 2.1.1
Date/Time	2020/08/23 14:26
Project Name	M7D03
Project file name	E:\OneDrive - SP JAIN SCHOOL OF GLOBAL MANAGEMENT\theses\Mr. Srinivas\M7\M7D3\M7D03
Data file name	Data03.xlsx
Number of observations	412
Algorithm status	The iterative algorithm converged after 10 iteration(s).
Bootstrap status	999 bootstrap samples have been evaluated (1009 attempts).

Graphical representation of the model



Overall Model

Goodness of model fit (saturated model)

	Value	HI95	HI99
SRMR	0.1865	0.0502	0.0560
d_{ULS}	37.6095	2.7225	3.3944
d_G	14.4813	7.6761	12.6376

Goodness of model fit (estimated model)

	Value	HI95	HI99
SRMR	0.1865	0.0502	0.0560
d_{ULS}	37.6095	2.7225	3.3944
d_G	14.4813	7.6920	13.1544

Measurement Model

Construct Operationalization

Construct	Type of measurement model	Number of indicators	Predefined reliability
ER	factor (Mode A)	4	1.0000
AQ	factor (Mode A)	5	1.0000
PR	factor (Mode A)	5	1.0000
GV	factor (Mode A)	5	1.0000
RB	factor (Mode A)	6	1.0000
FC	factor (Mode A)	6	1.0000
IN	factor (Mode A)	5	1.0000
EM	factor (Mode A)	5	1.0000
OU	factor (Mode A)	5	1.0000

Construct Reliability

Construct	Dijkstra-Henseler's rho (ρ_A)	Jöreskog's rho (ρ_C)	Cronbach's alpha(α)
ER	0.9157	0.9192	0.8841
AQ	0.9717	0.9623	0.9498
PR	0.9542	0.9547	0.9391
GV	0.9483	0.9412	0.9222
RB	1.0101	0.9505	0.9440
FC	1.0325	0.9619	0.9587
IN	0.9741	0.9602	0.9498
EM	0.9224	0.9203	0.8923
OU	0.9678	0.9562	0.9404

Convergent Validity

Construct	Average variance extracted (AVE)
ER	0.7405
AQ	0.8375
PR	0.8095
GV	0.7633
RB	0.7633
FC	0.8089
IN	0.8283
EM	0.7015
OU	0.8157

Discriminant Validity: Heterotrait-Monotrait Ratio of Correlations (HTMT)

Construct	ER	AQ	PR	GV	RB	FC	IN	EM	OU
ER									
AQ	0.6295								
PR	0.5946	0.6560							
GV	0.5269	0.6120	0.7591						
RB	0.5178	0.5114	0.4752	0.4289					
FC	0.4051	0.4580	0.4304	0.4145	0.5922				
IN	0.6273	0.5669	0.4897	0.4052	0.4062	0.3127			
EM	0.3634	0.5102	0.7422	0.7962	0.2556	0.2581	0.2365		
OU	0.6421	0.6461	0.6515	0.5998	0.4716	0.4342	0.6042	0.4815	

Discriminant Validity: Fornell-Larcker Criterion

Construct	ER	AQ	PR	GV	RB	FC	IN	EM	OU
ER	0.7405								
AQ	0.3517	0.8375							
PR	0.3393	0.4163	0.8095						

GV	0.2825	0.3754	0.4793	0.7633					
RB	0.2871	0.2986	0.2984	0.2711	0.7633				
FC	0.1959	0.2509	0.2547	0.2629	0.3419	0.8089			
IN	0.3290	0.3087	0.2662	0.2004	0.1991	0.1299	0.8283		
EM	0.1734	0.2977	0.4722	0.4964	0.1519	0.1503	0.1114	0.7015	
OU	0.3486	0.3892	0.4011	0.3533	0.2779	0.2499	0.3257	0.2723	0.8157

Squared correlations; AVE in the diagonal.

Loadings

Indicator	ER	AQ	PR	GV	RB	FC	IN	EM	OU
ER1	0.8507								
ER2	0.8225								
ER3	0.9416								
ER4	0.8217								
AQ1		0.7372							
AQ2		0.9357							
AQ3		0.9662							
AQ4		0.9692							
AQ5		0.9462							
PR2			0.9645						
PR3			0.9703						
PR4			0.7369						
PR5			0.9021						
PR6			0.9049						
GV2				0.8911					
GV3				0.8147					
GV4				0.7562					
GV5				0.9421					
GV6				0.9482					
RB2					0.7709				
RB3					0.9450				
RB4					0.7937				
RB5					0.9236				

RB6					0.8371				
RB7					0.9534				
FC1						0.8219			
FC2						0.8140			
FC3						0.9707			
FC4						0.9701			
FC5						0.9700			
FC6						0.8313			
IN1							0.8958		
IN2							0.9199		
IN3							0.9004		
IN4							0.9093		
IN5							0.9249		
EM1								0.8985	
EM2								0.6768	
EM4								0.9005	
EM5								0.9554	
EM6								0.7202	
OU1									0.9544
OU2									0.9830
OU4									0.8620
OU6									0.9860
OU7									0.6972

Indicator Reliability

Indicator	ER	AQ	PR	GV	RB	FC	IN	EM	OU
ER1	0.7236								
ER2	0.6765								
ER3	0.8866								
ER4	0.6753								
AQ1		0.5435							
AQ2		0.8756							
AQ3		0.9336							

AQ4		0.9393						
AQ5		0.8953						
PR2			0.9303					
PR3			0.9415					
PR4			0.5430					
PR5			0.8139					
PR6			0.8188					
GV2				0.7941				
GV3				0.6638				
GV4				0.5719				
GV5				0.8876				
GV6				0.8990				
RB2					0.5942			
RB3					0.8930			
RB4					0.6299			
RB5					0.8531			
RB6					0.7007			
RB7					0.9089			
FC1						0.6755		
FC2						0.6627		
FC3						0.9423		
FC4						0.9410		
FC5						0.9409		
FC6						0.6910		
IN1							0.8024	
IN2							0.8461	
IN3							0.8107	
IN4							0.8268	
IN5							0.8554	
EM1								0.8073
EM2								0.4580
EM4								0.8109
EM5								0.9128

EM6								0.5187	
OU1									0.9109
OU2									0.9664
OU4									0.7431
OU6									0.9721
OU7									0.4860

Cross Loadings

Indicator	ER	AQ	PR	GV	RB	FC	IN	EM	OU
ER1	0.8507	0.5614	0.5861	0.5815	0.5699	0.5832	0.3963	0.5106	0.5264
ER2	0.8225	0.3630	0.2914	0.2238	0.3277	0.1679	0.5219	0.0433	0.3967
ER3	0.9416	0.6204	0.6771	0.6375	0.5751	0.4886	0.5239	0.5742	0.6271
ER4	0.8217	0.4429	0.3547	0.2771	0.3035	0.1883	0.5600	0.1628	0.4342
AQ1	0.4344	0.7372	0.2607	0.2022	0.3874	0.3376	0.4638	0.0012	0.3723
AQ2	0.5208	0.9357	0.6054	0.5899	0.5839	0.5943	0.4544	0.4972	0.5644
AQ3	0.6029	0.9662	0.6685	0.6468	0.5181	0.4692	0.5522	0.5944	0.6342
AQ4	0.5894	0.9692	0.6714	0.6333	0.5236	0.4590	0.5492	0.6099	0.6321
AQ5	0.5481	0.9462	0.6461	0.6192	0.4753	0.4193	0.5261	0.6212	0.6006
PR2	0.5820	0.6035	0.9645	0.6360	0.5271	0.4786	0.5257	0.5927	0.6105
PR3	0.5823	0.6218	0.9703	0.6361	0.5301	0.4751	0.5441	0.6129	0.6193
PR4	0.3035	0.4287	0.7369	0.6611	0.3788	0.4086	0.1822	0.8224	0.4265
PR5	0.5928	0.6399	0.9021	0.6188	0.4263	0.3200	0.5791	0.6341	0.6213
PR6	0.5067	0.5804	0.9049	0.5910	0.5890	0.6087	0.4113	0.4974	0.5424
GV2	0.4768	0.5638	0.5723	0.8911	0.5717	0.5966	0.4014	0.4922	0.5172
GV3	0.3323	0.4634	0.6330	0.8147	0.3062	0.3104	0.2348	0.8628	0.4502
GV4	0.2623	0.3496	0.5507	0.7562	0.2812	0.2762	0.1625	0.7631	0.3578
GV5	0.5656	0.6232	0.6348	0.9421	0.5094	0.4898	0.5152	0.5548	0.6031
GV6	0.5935	0.6134	0.6446	0.9482	0.5367	0.5056	0.5291	0.5426	0.6103
RB2	0.2700	0.2159	0.1248	0.1018	0.7709	0.4231	0.1949	-0.1311	0.1824
RB3	0.4901	0.5374	0.5912	0.5807	0.9450	0.5897	0.3804	0.5131	0.5181
RB4	0.2645	0.2337	0.1420	0.1194	0.7937	0.4472	0.2137	-0.0968	0.2113
RB5	0.6035	0.6406	0.6758	0.6379	0.9236	0.5227	0.5453	0.5802	0.6341
RB6	0.4434	0.3458	0.2589	0.2111	0.8371	0.3600	0.4179	-0.0175	0.3483

RB7	0.5136	0.5618	0.5917	0.5901	0.9534	0.6434	0.3844	0.5033	0.5278
FC1	0.2345	0.2132	0.1315	0.1377	0.4206	0.8219	0.2016	-0.1042	0.2213
FC2	0.2347	0.2203	0.1291	0.1239	0.4210	0.8140	0.2014	-0.1213	0.2254
FC3	0.4883	0.5668	0.6042	0.6166	0.5912	0.9707	0.3928	0.5427	0.5612
FC4	0.4771	0.5596	0.6027	0.6119	0.5885	0.9701	0.3829	0.5447	0.5588
FC5	0.4760	0.5634	0.6021	0.6149	0.5914	0.9700	0.3887	0.5497	0.5593
FC6	0.2438	0.2294	0.1442	0.1359	0.4299	0.8313	0.2019	-0.0758	0.2326
IN1	0.4763	0.3982	0.2907	0.2138	0.2756	0.1717	0.8958	0.0571	0.4240
IN2	0.5701	0.6091	0.6407	0.6040	0.5238	0.4846	0.9199	0.5550	0.6159
IN3	0.4683	0.4081	0.3035	0.2059	0.2852	0.1552	0.9004	0.0680	0.4165
IN4	0.4748	0.3973	0.3144	0.2307	0.2986	0.1771	0.9093	0.0791	0.4313
IN5	0.5786	0.6209	0.6444	0.6054	0.5371	0.5026	0.9249	0.5388	0.6230
EM1	0.3359	0.4216	0.5832	0.5903	0.2041	0.1529	0.2942	0.8985	0.4257
EM2	0.0704	0.2294	0.3593	0.4371	0.2673	0.4053	-0.0949	0.6768	0.1494
EM4	0.3174	0.4204	0.5715	0.5807	0.1882	0.1242	0.2838	0.9005	0.4082
EM5	0.3314	0.4737	0.6456	0.6635	0.3063	0.3017	0.2431	0.9554	0.4444
EM6	0.4824	0.5741	0.5934	0.5985	0.5654	0.6122	0.4045	0.7202	0.5531
OU1	0.5914	0.6145	0.6318	0.5829	0.4396	0.3845	0.5972	0.5376	0.9544
OU2	0.5664	0.6139	0.6349	0.6087	0.5292	0.5219	0.5291	0.5405	0.9830
OU4	0.4616	0.5383	0.5666	0.5557	0.5755	0.5918	0.3885	0.5108	0.8620
OU6	0.5729	0.6182	0.6385	0.6130	0.5398	0.5339	0.5348	0.5416	0.9860
OU7	0.4848	0.3929	0.3084	0.2174	0.2186	0.1092	0.5898	0.0885	0.6972

Weights

Indicator	ER	AQ	PR	GV	RB	FC	IN	EM	OU
ER1	0.3058								
ER2	0.2304								
ER3	0.3643								
ER4	0.2522								
AQ1		0.1434							
AQ2		0.2174							
AQ3		0.2443							
AQ4		0.2435							

AQ5		0.2313						
PR2			0.2389					
PR3			0.2424					
PR4			0.1669					
PR5			0.2432					
PR6			0.2123					
GV2				0.2304				
GV3				0.2005				
GV4				0.1594				
GV5				0.2686				
GV6				0.2718				
RB2					0.0837			
RB3					0.2379			
RB4					0.0970			
RB5					0.2911			
RB6					0.1599			
RB7					0.2423			
FC1						0.1011		
FC2						0.1030		
FC3						0.2565		
FC4						0.2554		
FC5						0.2556		
FC6						0.1063		
IN1							0.1852	
IN2							0.2690	
IN3							0.1819	
IN4							0.1884	
IN5							0.2721	
EM1								0.2543
EM2								0.0892
EM4								0.2438
EM5								0.2655
EM6								0.3304

OU1									0.2381
OU2									0.2457
OU4									0.2249
OU6									0.2482
OU7									0.1328

Indicator Multicollinearity

Indicator	ER	AQ	PR	GV	RB	FC	IN	EM	OU
ER1	3.8375								
ER2	3.0459								
ER3	5.4137								
ER4	3.1129								
AQ1		1.9139							
AQ2		5.3976							
AQ3		11.5683							
AQ4		13.9130							
AQ5		7.6964							
PR2			10.8581						
PR3			13.6723						
PR4			1.7341						
PR5			4.7360						
PR6			5.0041						
GV2				4.7451					
GV3				7.2001					
GV4				6.1951					
GV5				14.3666					
GV6				13.1517					
RB2					10.3259				
RB3					9.1661				
RB4					8.1894				
RB5					9.4856				
RB6					5.6620				
RB7					9.9042				

FC1						24.1630			
FC2						30.4807			
FC3						30.4992			
FC4						55.4028			
FC5						48.6947			
FC6						9.3074			
IN1							7.0043		
IN2							20.4617		
IN3							8.8778		
IN4							9.2943		
IN5							21.1907		
EM1								9.3634	
EM2								2.7356	
EM4								15.8262	
EM5								16.1934	
EM6								1.5922	
OU1									15.8843
OU2									25.0838
OU4									7.3907
OU6									27.0854
OU7									3.5615

Variance inflation factors (VIF)

Structural Model

R-Squared

Construct	Coefficient of determination (R ²)	Adjusted R ²
OU	0.5644	0.5557

Path Coefficients

Independent variable	Dependent variable
	OU
ER	0.1411
AQ	0.1469
PR	0.1423
GV	0.0961
RB	0.0615
FC	0.1012
IN	0.1984
EM	0.0880

Total Effects

Independent variable	Dependent variable
	OU
ER	0.1411
AQ	0.1469
PR	0.1423
GV	0.0961
RB	0.0615
FC	0.1012
IN	0.1984
EM	0.0880

Indirect Effects

Independent variable	Dependent variable
	OU
ER	
AQ	
PR	
GV	
RB	
FC	

IN	
EM	

Effect Overview

Effect	Beta	Indirect effects	Total effect	Cohen's f ²
ER -> OU	0.1411		0.1411	0.0227
AQ -> OU	0.1469		0.1469	0.0214
PR -> OU	0.1423		0.1423	0.0160
GV -> OU	0.0961		0.0961	0.0078
RB -> OU	0.0615		0.0615	0.0045
FC -> OU	0.1012		0.1012	0.0136
IN -> OU	0.1984		0.1984	0.0521
EM -> OU	0.0880		0.0880	0.0073

Inter-Construct Correlations

Construct	ER	AQ	PR	GV	RB	FC	IN	EM	OU
ER	1.0000								
AQ	0.5931	1.0000							
PR	0.5825	0.6452	1.0000						
GV	0.5315	0.6127	0.6923	1.0000					
RB	0.5359	0.5465	0.5463	0.5207	1.0000				
FC	0.4426	0.5009	0.5047	0.5127	0.5847	1.0000			
IN	0.5736	0.5556	0.5160	0.4477	0.4462	0.3605	1.0000		
EM	0.4164	0.5457	0.6872	0.7046	0.3897	0.3877	0.3337	1.0000	
OU	0.5904	0.6238	0.6333	0.5944	0.5271	0.4999	0.5707	0.5218	1.0000

Diagnostics

Empirical correlation matrix

	ER1	ER2	ER3	ER4	AQ1	AQ2	AQ3	AQ4	AQ5	PR2	PR3	PI
ER1	1.0000	0.4946	0.8527	0.4766	0.2844	0.5869	0.5471	0.5512	0.5411	0.5532	0.5537	0.5

ER1	0.4946	1.0000	0.6550	0.8013	0.4575	0.2489	0.3736	0.3541	0.2845	0.3496	0.3348	-0.1
ER2	0.4946	1.0000	0.6550	0.8013	0.4575	0.2489	0.3736	0.3541	0.2845	0.3496	0.3348	-0.1
ER3	0.8527	0.6550	1.0000	0.6563	0.3316	0.5686	0.6471	0.6349	0.5907	0.6435	0.6469	0.5

ER4	0.4766	0.8013	0.6563	1.0000	0.4804	0.3046	0.4512	0.4279	0.4040	0.3881	0.3971	-0.0
AQ1	0.2844	0.4575	0.3316	0.4804	1.0000	0.6888	0.6280	0.6228	0.6011	0.2862	0.3116	-0.1
AQ2	0.5869	0.2489	0.5686	0.3046	0.6888	1.0000	0.8776	0.8745	0.8311	0.5801	0.5716	0.4
AQ3	0.5471	0.3736	0.6471	0.4512	0.6280	0.8776	1.0000	0.9481	0.9091	0.6176	0.6294	0.4
AQ4	0.5512	0.3541	0.6349	0.4279	0.6228	0.8745	0.9481	1.0000	0.9281	0.6188	0.6528	0.4
AQ5	0.5411	0.2845	0.5907	0.4040	0.6011	0.8311	0.9091	0.9281	1.0000	0.5831	0.6062	0.4
PR2	0.5532	0.3496	0.6435	0.3881	0.2862	0.5801	0.6176	0.6188	0.5831	1.0000	0.9461	0.6
PR3	0.5537	0.3348	0.6469	0.3971	0.3116	0.5716	0.6294	0.6528	0.6062	0.9461	1.0000	0.6
PR4	0.5001	-0.1080	0.5085	-0.0389	-0.1306	0.4575	0.4998	0.4798	0.4713	0.6319	0.6256	1.0
PR5	0.4389	0.4153	0.6458	0.5058	0.2928	0.4925	0.6831	0.6807	0.6841	0.8548	0.8720	0.5
PR6	0.6105	0.2061	0.5873	0.2318	0.3177	0.6229	0.5601	0.5644	0.5410	0.8623	0.8738	0.6
GV2	0.6126	0.1768	0.5244	0.2286	0.3047	0.6112	0.5384	0.5375	0.5400	0.5401	0.5538	0.4
GV3	0.4285	-0.0332	0.5207	0.0759	-0.1143	0.4255	0.5443	0.5343	0.5372	0.5251	0.5308	0.8
GV4	0.3733	-0.0490	0.4404	-0.0040	-0.1836	0.3405	0.4296	0.4161	0.4138	0.4633	0.4428	0.8
GV5	0.5344	0.3350	0.6238	0.3874	0.3529	0.5660	0.6431	0.6168	0.6153	0.6035	0.6015	0.4
GV6	0.5569	0.3955	0.6419	0.3892	0.3288	0.5795	0.6345	0.6268	0.5735	0.6264	0.6250	0.4
RB2	0.3047	0.2509	0.2049	0.1758	0.4140	0.3281	0.1389	0.1465	0.0675	0.1639	0.1580	-0.1
RB3	0.6150	0.1764	0.5806	0.1976	0.2661	0.5899	0.5071	0.5296	0.5111	0.5593	0.5596	0.5
RB4	0.3243	0.2083	0.2133	0.1571	0.3838	0.3429	0.1564	0.1687	0.1072	0.1545	0.1750	-0.0
RB5	0.5628	0.3800	0.6767	0.3856	0.3468	0.6090	0.6509	0.6570	0.6031	0.6335	0.6461	0.5
RB6	0.3110	0.4926	0.3702	0.3961	0.4923	0.3455	0.3017	0.2876	0.2439	0.3049	0.2827	-0.0
RB7	0.6316	0.2277	0.5899	0.2102	0.2995	0.6204	0.5488	0.5439	0.5080	0.5457	0.5510	0.5
FC1	0.3233	0.1838	0.1788	0.1115	0.3741	0.3525	0.1398	0.1258	0.0784	0.1703	0.1373	-0.0
FC2	0.3278	0.1891	0.1801	0.1000	0.4065	0.3512	0.1363	0.1280	0.0917	0.1720	0.1394	-0.0
FC3	0.6344	0.1575	0.5682	0.2024	0.2871	0.6376	0.5549	0.5452	0.5133	0.5610	0.5616	0.5
FC4	0.6270	0.1457	0.5604	0.1888	0.2796	0.6302	0.5517	0.5373	0.5055	0.5532	0.5583	0.5
FC5	0.6183	0.1409	0.5559	0.2058	0.2748	0.6310	0.5564	0.5465	0.5097	0.5533	0.5583	0.5
FC6	0.3376	0.1527	0.1980	0.1317	0.4008	0.3451	0.1464	0.1534	0.1027	0.1610	0.1651	-0.0
IN1	0.1778	0.5840	0.3556	0.6253	0.5076	0.2592	0.3945	0.3782	0.3487	0.3317	0.3472	-0.1
IN2	0.5332	0.3683	0.5979	0.4137	0.3230	0.5699	0.6273	0.6148	0.5878	0.6148	0.6268	0.4
IN3	0.1012	0.5810	0.3307	0.6154	0.5188	0.2670	0.3753	0.3018	0.3824	0.3451	0.3716	0.1

IN3	0.1912	0.3619	0.3507	0.0194	0.3168	0.2079	0.3733	0.3918	0.3624	0.3431	0.3718	-0.1
IN4	0.2047	0.5762	0.3650	0.5806	0.4913	0.2536	0.3759	0.3757	0.3820	0.3621	0.3774	-0.1
IN5	0.5390	0.3687	0.6187	0.4101	0.3530	0.5756	0.6297	0.6311	0.5951	0.6171	0.6340	0.4

EM1	0.3124	0.0792	0.4801	0.1871	-0.0958	0.3169	0.5025	0.5196	0.5066	0.4970	0.5179	0.7
EM2	0.4142	-0.3407	0.2267	-0.2394	-0.1633	0.3619	0.2383	0.2425	0.2460	0.2625	0.2804	0.6
EM4	0.3135	0.0459	0.4603	0.1716	-0.1017	0.2968	0.4912	0.5167	0.5392	0.4775	0.5107	0.7
EM5	0.4356	-0.0463	0.5227	0.0730	-0.1031	0.4331	0.5334	0.5518	0.5608	0.5405	0.5658	0.8
EM6	0.6118	0.1656	0.5477	0.2282	0.2792	0.5962	0.5569	0.5559	0.5755	0.5538	0.5492	0.5
OU1	0.4417	0.4548	0.6240	0.4925	0.3378	0.5036	0.6551	0.6417	0.6065	0.6152	0.6041	0.4
OU2	0.5441	0.3387	0.6223	0.3775	0.3259	0.5759	0.6330	0.6206	0.5891	0.6068	0.6051	0.4
OU4	0.5808	0.1457	0.5368	0.2175	0.2988	0.5888	0.4948	0.5208	0.5176	0.5240	0.5594	0.4
OU6	0.5605	0.3473	0.6257	0.3706	0.3410	0.5737	0.6320	0.6287	0.5927	0.6056	0.6177	0.4
OU7	0.1339	0.6489	0.3737	0.6269	0.4511	0.2120	0.4104	0.4040	0.3611	0.3518	0.3586	-0.1



Impl_Cor Saturated Model

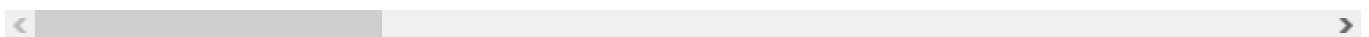
	ER1	ER2	ER3	ER4	AQ1	AQ2	AQ3	AQ4	AQ5	PR2	PR3	PR4
ER1	1.0000	0.6996	0.8010	0.6990	0.3719	0.4721	0.4875	0.4890	0.4774	0.4780	0.4808	0.3651

ER2	0.6996	1.0000	0.7744	0.6759	0.3596	0.4564	0.4713	0.4728	0.4616	0.4621	0.4649	0.3530
ER3	0.8010	0.7744	1.0000	0.7737	0.4117	0.5225	0.5396	0.5412	0.5284	0.5290	0.5322	0.4042
ER4	0.6990	0.6759	0.7737	1.0000	0.3593	0.4560	0.4709	0.4723	0.4612	0.4617	0.4645	0.3527
AQ1	0.3719	0.3596	0.4117	0.3593	1.0000	0.6898	0.7123	0.7145	0.6976	0.4588	0.4615	0.3505
AQ2	0.4721	0.4564	0.5225	0.4560	0.6898	1.0000	0.9041	0.9069	0.8854	0.5823	0.5858	0.4449
AQ3	0.4875	0.4713	0.5396	0.4709	0.7123	0.9041	1.0000	0.9365	0.9143	0.6013	0.6049	0.4594
AQ4	0.4890	0.4728	0.5412	0.4723	0.7145	0.9069	0.9365	1.0000	0.9171	0.6032	0.6068	0.4608
AQ5	0.4774	0.4616	0.5284	0.4612	0.6976	0.8854	0.9143	0.9171	1.0000	0.5889	0.5924	0.4499
PR2	0.4780	0.4621	0.5290	0.4617	0.4588	0.5823	0.6013	0.6032	0.5889	1.0000	0.9359	0.7107
PR3	0.4808	0.4649	0.5322	0.4645	0.4615	0.5858	0.6049	0.6068	0.5924	0.9359	1.0000	0.7150
PR4	0.3651	0.3530	0.4042	0.3527	0.3505	0.4449	0.4594	0.4608	0.4499	0.7107	0.7150	1.0000
PR5	0.4470	0.4322	0.4948	0.4318	0.4291	0.5447	0.5624	0.5641	0.5508	0.8702	0.8754	0.6641
PR6	0.4484	0.4335	0.4963	0.4331	0.4304	0.5463	0.5641	0.5658	0.5524	0.8728	0.8780	0.6661
GV2	0.4029	0.3896	0.4460	0.3892	0.4025	0.5109	0.5276	0.5292	0.5166	0.5951	0.5986	0.4541
GV3	0.3684	0.3562	0.4078	0.3559	0.3680	0.4671	0.4823	0.4838	0.4723	0.5441	0.5473	0.4151

GV4	0.3419	0.3306	0.3785	0.3303	0.3416	0.4335	0.4477	0.4490	0.4384	0.5050	0.5080	0.3851
GV5	0.4260	0.4119	0.4715	0.4115	0.4255	0.5401	0.5577	0.5594	0.5462	0.6291	0.6329	0.4801
GV6	0.4287	0.4145	0.4745	0.4142	0.4283	0.5436	0.5613	0.5630	0.5497	0.6332	0.6369	0.4831
RB2	0.3514	0.3397	0.3889	0.3394	0.3106	0.3942	0.4070	0.4083	0.3986	0.4062	0.4086	0.3101
RB3	0.4308	0.4165	0.4768	0.4161	0.3807	0.4832	0.4990	0.5005	0.4886	0.4980	0.5009	0.3801
RB4	0.3618	0.3498	0.4004	0.3495	0.3197	0.4058	0.4191	0.4203	0.4104	0.4182	0.4207	0.3191
RB5	0.4210	0.4071	0.4660	0.4067	0.3721	0.4723	0.4877	0.4892	0.4776	0.4867	0.4896	0.3711
RB6	0.3816	0.3689	0.4224	0.3686	0.3372	0.4280	0.4420	0.4433	0.4328	0.4411	0.4437	0.3371
RB7	0.4346	0.4202	0.4810	0.4198	0.3841	0.4875	0.5034	0.5049	0.4930	0.5024	0.5054	0.3831
FC1	0.3094	0.2992	0.3425	0.2989	0.3035	0.3852	0.3978	0.3990	0.3896	0.4001	0.4025	0.3051
FC2	0.3065	0.2963	0.3392	0.2961	0.3006	0.3816	0.3940	0.3952	0.3859	0.3963	0.3987	0.3021
FC3	0.3655	0.3533	0.4045	0.3530	0.3585	0.4550	0.4698	0.4713	0.4601	0.4725	0.4754	0.3611
FC4	0.3652	0.3531	0.4042	0.3528	0.3583	0.4547	0.4695	0.4710	0.4598	0.4722	0.4751	0.3601
FC5	0.3652	0.3531	0.4042	0.3528	0.3582	0.4547	0.4695	0.4709	0.4598	0.4722	0.4750	0.3601
FC6	0.3130	0.3026	0.3464	0.3023	0.3070	0.3897	0.4024	0.4036	0.3940	0.4047	0.4071	0.3091
IN1	0.4371	0.4226	0.4838	0.4222	0.3669	0.4657	0.4809	0.4823	0.4709	0.4458	0.4485	0.3401
IN2	0.4488	0.4340	0.4968	0.4336	0.3768	0.4782	0.4938	0.4953	0.4836	0.4578	0.4605	0.3491
IN3	0.4393	0.4248	0.4863	0.4244	0.3688	0.4681	0.4833	0.4848	0.4733	0.4481	0.4508	0.3421

IN4	0.4437	0.4290	0.4911	0.4286	0.3724	0.4727	0.4881	0.4896	0.4780	0.4525	0.4552	0.3451
IN5	0.4513	0.4363	0.4995	0.4359	0.3788	0.4808	0.4965	0.4980	0.4862	0.4603	0.4630	0.3511
EM1	0.3183	0.3077	0.3523	0.3075	0.3614	0.4588	0.4737	0.4752	0.4639	0.5955	0.5991	0.4541
EM2	0.2397	0.2318	0.2654	0.2316	0.2723	0.3456	0.3568	0.3579	0.3494	0.4486	0.4512	0.3421
EM4	0.3190	0.3084	0.3531	0.3082	0.3623	0.4598	0.4748	0.4762	0.4650	0.5969	0.6004	0.4561
EM5	0.3384	0.3272	0.3746	0.3269	0.3843	0.4878	0.5037	0.5052	0.4933	0.6332	0.6370	0.4831
EM6	0.2551	0.2467	0.2824	0.2465	0.2897	0.3677	0.3797	0.3809	0.3718	0.4773	0.4802	0.3641
OU1	0.4793	0.4635	0.5306	0.4630	0.4389	0.5571	0.5753	0.5770	0.5634	0.5830	0.5865	0.4451
OU2	0.4937	0.4774	0.5465	0.4769	0.4521	0.5738	0.5925	0.5943	0.5803	0.6005	0.6041	0.4581
OU4	0.4329	0.4186	0.4792	0.4182	0.3965	0.5032	0.5196	0.5212	0.5088	0.5266	0.5297	0.4021
OU6	0.4952	0.4788	0.5481	0.4784	0.4534	0.5755	0.5943	0.5961	0.5820	0.6023	0.6059	0.4601
OU7	0.3501	0.3385	0.3876	0.3382	0.3206	0.4070	0.4202	0.4215	0.4115	0.4259	0.4284	0.3251

Implied correlation matrix of the saturated model

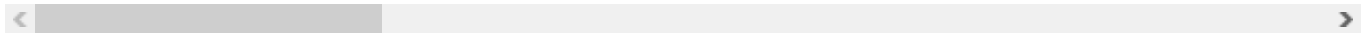


Impl_Cor Estimated Model

	ER1	ER2	ER3	ER4	AQ1	AQ2	AQ3	AQ4	AQ5	PR2	PR3	PR4
ER1	1.0000	0.6996	0.8010	0.6990	0.3719	0.4721	0.4875	0.4890	0.4774	0.4780	0.4808	0.3651
ER2	0.6996	1.0000	0.7744	0.6759	0.3596	0.4564	0.4713	0.4728	0.4616	0.4621	0.4649	0.3530
ER3	0.8010	0.7744	1.0000	0.7737	0.4117	0.5225	0.5396	0.5412	0.5284	0.5290	0.5322	0.4042
ER4	0.6990	0.6759	0.7737	1.0000	0.3593	0.4560	0.4709	0.4723	0.4612	0.4617	0.4645	0.3527
AQ1	0.3719	0.3596	0.4117	0.3593	1.0000	0.6898	0.7123	0.7145	0.6976	0.4588	0.4615	0.3505
AQ2	0.4721	0.4564	0.5225	0.4560	0.6898	1.0000	0.9041	0.9069	0.8854	0.5823	0.5858	0.4449
AQ3	0.4875	0.4713	0.5396	0.4709	0.7123	0.9041	1.0000	0.9365	0.9143	0.6013	0.6049	0.4594
AQ4	0.4890	0.4728	0.5412	0.4723	0.7145	0.9069	0.9365	1.0000	0.9171	0.6032	0.6068	0.4608
AQ5	0.4774	0.4616	0.5284	0.4612	0.6976	0.8854	0.9143	0.9171	1.0000	0.5889	0.5924	0.4499
PR2	0.4780	0.4621	0.5290	0.4617	0.4588	0.5823	0.6013	0.6032	0.5889	1.0000	0.9359	0.7107
PR3	0.4808	0.4649	0.5322	0.4645	0.4615	0.5858	0.6049	0.6068	0.5924	0.9359	1.0000	0.7150
PR4	0.3651	0.3530	0.4042	0.3527	0.3505	0.4449	0.4594	0.4608	0.4499	0.7107	0.7150	1.0000
PR5	0.4470	0.4322	0.4948	0.4318	0.4291	0.5447	0.5624	0.5641	0.5508	0.8702	0.8754	0.6641
PR6	0.4484	0.4335	0.4963	0.4331	0.4304	0.5463	0.5641	0.5658	0.5524	0.8728	0.8780	0.6661
GV2	0.4029	0.3896	0.4460	0.3892	0.4025	0.5109	0.5276	0.5292	0.5166	0.5951	0.5986	0.4541
GV3	0.3684	0.3562	0.4078	0.3559	0.3680	0.4671	0.4823	0.4838	0.4723	0.5441	0.5473	0.4150
GV4	0.3419	0.3306	0.3785	0.3303	0.3416	0.4335	0.4477	0.4490	0.4384	0.5050	0.5080	0.3851
GV5	0.4260	0.4119	0.4715	0.4115	0.4255	0.5401	0.5577	0.5594	0.5462	0.6291	0.6329	0.4801
GV6	0.4287	0.4145	0.4745	0.4142	0.4283	0.5436	0.5613	0.5630	0.5497	0.6332	0.6369	0.4831
RB2	0.3514	0.3397	0.3889	0.3394	0.3106	0.3942	0.4070	0.4083	0.3986	0.4062	0.4086	0.3106
RB3	0.4308	0.4165	0.4768	0.4161	0.3807	0.4832	0.4990	0.5005	0.4886	0.4980	0.5009	0.3807
RB4	0.3618	0.3498	0.4004	0.3495	0.3197	0.4058	0.4191	0.4203	0.4104	0.4182	0.4207	0.3197
RB5	0.4210	0.4071	0.4660	0.4067	0.3721	0.4723	0.4877	0.4892	0.4776	0.4867	0.4896	0.3721
RB6	0.3816	0.3689	0.4224	0.3686	0.3372	0.4280	0.4420	0.4433	0.4328	0.4411	0.4437	0.3372
RB7	0.4346	0.4202	0.4810	0.4198	0.3841	0.4875	0.5034	0.5049	0.4930	0.5024	0.5054	0.3841
FC1	0.3094	0.2992	0.3425	0.2989	0.3035	0.3852	0.3978	0.3990	0.3896	0.4001	0.4025	0.3035
FC2	0.3065	0.2963	0.3392	0.2961	0.3006	0.3816	0.3940	0.3952	0.3859	0.3963	0.3987	0.3006
FC3	0.3655	0.3533	0.4045	0.3530	0.3585	0.4550	0.4698	0.4713	0.4601	0.4725	0.4754	0.3611
FC4	0.3652	0.3531	0.4042	0.3528	0.3583	0.4547	0.4695	0.4710	0.4598	0.4722	0.4751	0.3611
FC5	0.3652	0.3531	0.4042	0.3528	0.3582	0.4547	0.4695	0.4709	0.4598	0.4722	0.4750	0.3611
FC6	0.3130	0.3026	0.3464	0.3023	0.3070	0.3897	0.4024	0.4036	0.3940	0.4047	0.4071	0.3070
IN1	0.4371	0.4226	0.4838	0.4222	0.3669	0.4657	0.4809	0.4823	0.4709	0.4458	0.4485	0.3401

IN1	0.4488	0.4340	0.4968	0.4336	0.3768	0.4782	0.4938	0.4953	0.4836	0.4578	0.4605	0.3497
IN2	0.4488	0.4340	0.4968	0.4336	0.3768	0.4782	0.4938	0.4953	0.4836	0.4578	0.4605	0.3497
IN3	0.4393	0.4248	0.4863	0.4244	0.3688	0.4681	0.4833	0.4848	0.4733	0.4481	0.4508	0.3427
IN4	0.4437	0.4290	0.4911	0.4286	0.3724	0.4727	0.4881	0.4896	0.4780	0.4525	0.4552	0.3457
IN5	0.4513	0.4363	0.4995	0.4359	0.3788	0.4808	0.4965	0.4980	0.4862	0.4603	0.4630	0.3510
EM1	0.3183	0.3077	0.3523	0.3075	0.3614	0.4588	0.4737	0.4752	0.4639	0.5955	0.5991	0.4549
EM2	0.2397	0.2318	0.2654	0.2316	0.2723	0.3456	0.3568	0.3579	0.3494	0.4486	0.4512	0.3427
EM4	0.3190	0.3084	0.3531	0.3082	0.3623	0.4598	0.4748	0.4762	0.4650	0.5969	0.6004	0.4560
EM5	0.3384	0.3272	0.3746	0.3269	0.3843	0.4878	0.5037	0.5052	0.4933	0.6332	0.6370	0.4839
EM6	0.2551	0.2467	0.2824	0.2465	0.2897	0.3677	0.3797	0.3809	0.3718	0.4773	0.4802	0.3647
OU1	0.4793	0.4635	0.5306	0.4630	0.4389	0.5571	0.5753	0.5770	0.5634	0.5830	0.5865	0.4454
OU2	0.4937	0.4774	0.5465	0.4769	0.4521	0.5738	0.5925	0.5943	0.5803	0.6005	0.6041	0.4589
OU4	0.4329	0.4186	0.4792	0.4182	0.3965	0.5032	0.5196	0.5212	0.5088	0.5266	0.5297	0.4027
OU6	0.4952	0.4788	0.5481	0.4784	0.4534	0.5755	0.5943	0.5961	0.5820	0.6023	0.6059	0.4607
OU7	0.3501	0.3385	0.3876	0.3382	0.3206	0.4070	0.4202	0.4215	0.4115	0.4259	0.4284	0.3257

Implied correlation matrix of the estimated model



Scores

Standardized Construct Scores

Case	ER	AQ	PR	GV	RB	
1	1.256921417347	0.892169052686	0.470976653459	-0.145230128660	1.026826884809	0.8
2	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
3	-0.304745089446	0.333227433502	0.351433501685	0.011057446833	0.890686722154	0.8
4	1.256921417347	0.557500257939	-0.433455503960	-0.145230128660	0.687282028751	-0.1
5	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
6	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
7	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
8	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
9	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
10	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
11	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3

12	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
13	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
14	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
15	0.471304592545	-0.636636112166	0.194525795214	-0.793014840304	0.462780213240	-0.6
16	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
17	-0.796611888311	-0.332152747668	-0.596944282776	-0.471765594047	0.324955075439	0.8
18	0.341278163729	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
19	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
20	0.428502793463	-1.044574024002	-0.098795983422	-0.145230128660	1.026826884809	0.3
21	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
22	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
23	0.842712105405	0.557500257939	0.330939867378	0.033498412425	0.029155878180	0.3

24	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
25	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
26	-0.796611888311	-0.332152747668	-0.596944282776	-0.471765594047	0.324955075439	0.8
27	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
28	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
29	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
30	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
31	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
32	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
33	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
34	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
35	0.418935650652	-0.300475310095	0.020747168353	0.368514529003	0.867167850204	0.8
36	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
37	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
38	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
39	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
40	1.256921417347	0.892169052686	0.330939867378	-0.145230128660	1.026826884809	0.8
41	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
42	-0.082498291023	-0.892586374176	-0.600917469982	-0.232997183172	-0.300079342618	-0.6
43	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
44	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3

44	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
45	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
46	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
47	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
48	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
49	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
50	1.256921417347	0.892169052686	0.330939867378	-0.145230128660	0.687282028751	-0.6
51	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
52	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
53	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
54	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
55	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
56	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6

57	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
58	-0.796611888311	-0.332152747668	-0.596944282776	-0.471765594047	0.324955075439	0.8
59	-0.796611888311	-0.332152747668	-0.596944282776	-0.471765594047	0.324955075439	0.8
60	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
61	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
62	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
63	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
64	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
65	0.341278163729	-0.965855491265	-0.569869576124	0.144584929960	-0.459738377223	0.5
66	-0.444338661072	-0.664356141415	-0.464503397817	-0.793014840304	-0.639624198675	-0.5
67	0.066662423414	0.561457666263	0.470976653459	0.129746118129	-0.063582916701	0.3
68	-0.082498291023	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
69	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
70	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
71	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
72	0.833144962594	-1.451527993359	-0.464503397817	0.002064224788	0.221906645299	-0.6
73	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
74	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
75	-0.020562206320	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
76	1.256921417347	0.892169052686	0.330939867378	-0.145230128660	1.026826884809	0.8
77	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3

77	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
78	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
79	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
80	1.256921417347	0.892169052686	0.330939867378	-0.145230128660	1.026826884809	0.8
81	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
82	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
83	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
84	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
85	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
86	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
87	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
88	-0.796611888311	-0.332152747668	-0.596944282776	-0.471765594047	0.324955075439	0.8
89	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6

90	0.842712105405	0.589177695512	0.194525795214	-0.889262546007	0.729342712403	0.3
91	-0.796611888311	-0.332152747668	-0.596944282776	-0.471765594047	0.324955075439	0.8
92	-0.169722920757	-0.635144104842	-0.887658176272	-0.654201138046	0.133544992442	0.8
93	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
94	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
95	0.428502793463	-0.895051775175	0.351433501685	-0.909564924727	0.729342712403	0.8
96	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
97	0.480871735356	-0.076202485658	-0.460530210611	-0.650494135132	0.593202549748	0.8
98	-0.883836518044	0.636218790676	-0.146714797669	-0.977029600519	0.729342712403	0.8
99	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
100	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
101	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
102	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
103	0.842712105405	0.305507404253	0.194525795214	-0.272912022000	1.026826884809	0.7
104	1.256921417347	0.892169052686	0.330939867378	-0.145230128660	1.026826884809	0.8
105	-0.444338661072	-0.380685850156	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
106	-0.072931148213	0.557500257939	-0.286751583750	-0.034143611126	1.026826884809	-0.1
107	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
108	-0.796611888311	-0.332152747668	-0.596944282776	-0.471765594047	0.324955075439	0.8
109	-0.796611888311	-0.332152747668	-0.596944282776	-0.471765594047	0.324955075439	0.8
110	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3

110	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
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112	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
113	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
114	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
115	1.256921417347	0.892169052686	-0.757825176453	-0.145230128660	1.026826884809	0.8
116	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
117	1.256921417347	0.892169052686	0.330939867378	-0.145230128660	1.026826884809	0.8
118	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
119	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
120	0.833144962594	0.892169052686	0.330939867378	-0.145230128660	1.026826884809	0.8
121	-0.444338661072	-0.636636112166	-0.167208431976	-0.793014840304	-0.503484036021	-0.6
122	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6

123	1.256921417347	0.892169052686	0.330939867378	-0.145230128660	1.026826884809	0.8
124	1.256921417347	0.892169052686	0.330939867378	-0.145230128660	1.026826884809	0.8
125	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
126	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
127	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
128	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
129	-0.444338661072	-0.332152747668	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
130	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
131	-0.796611888311	-0.332152747668	-0.596944282776	-0.471765594047	0.324955075439	0.8
132	1.256921417347	0.892169052686	0.330939867378	-0.145230128660	1.026826884809	0.8
133	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
134	-0.072931148213	0.028744069004	-0.464503397817	0.272266823300	1.026826884809	0.7
135	-0.796611888311	-0.332152747668	-0.596944282776	-0.471765594047	0.324955075439	0.8
136	-0.796611888311	-0.332152747668	-0.596944282776	-0.471765594047	0.324955075439	0.8
137	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
138	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
139	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
140	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
141	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
142	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
143	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3

143	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
144	1.256921417347	0.892169052686	0.330939867378	-0.145230128660	1.026826884809	0.8
145	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
146	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
147	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
148	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
149	-0.796611888311	-0.332152747668	-0.596944282776	-0.471765594047	0.324955075439	0.8
150	-5.548118896330	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
151	-5.548118896330	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
152	-5.548118896330	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
153	-5.548118896330	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
154	-5.548118896330	-0.332152747668	-0.596944282776	-0.471765594047	0.324955075439	0.8
155	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3

156	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
157	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
158	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
159	-0.858547973015	-5.223051606722	-0.082275536321	-0.554246429429	-0.310388977877	-0.6
160	0.480871735356	-5.223051606722	0.801662986791	0.868492316345	0.433543515144	0.3
161	0.480871735356	-5.223051606722	0.801662986791	0.868492316345	0.433543515144	0.3
162	-0.796611888311	-5.223051606722	-0.596944282776	-0.471765594047	0.324955075439	0.8
163	-0.796611888311	-5.223051606722	-0.596944282776	-0.471765594047	0.324955075439	0.8
164	0.480871735356	0.636218790676	-4.651751133830	0.868492316345	0.433543515144	0.3
165	-0.444338661072	-0.636636112166	-4.651751133830	-0.793014840304	-0.639624198675	-0.6
166	0.480871735356	0.636218790676	-4.651751133830	0.868492316345	0.433543515144	0.3
167	-0.444338661072	-0.636636112166	-4.651751133830	-0.793014840304	-0.639624198675	-0.6
168	-0.796611888311	-0.332152747668	-4.651751133830	-0.471765594047	0.324955075439	0.8
169	-0.444338661072	-0.636636112166	-0.757825176453	-1.210511792264	-0.639624198675	-0.6
170	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
171	-0.366681174150	-0.332152747668	0.157161240517	-0.554246429429	-0.513793671280	-1.7
172	-0.357114031339	-0.076202485658	0.644755280320	-0.426564536089	0.401792466751	0.8
173	0.480871735356	0.636218790676	0.801662986791	-4.406356783075	0.433543515144	0.3
174	0.480871735356	0.636218790676	0.801662986791	-4.406356783075	0.433543515144	0.3
175	-0.444338661072	-0.636636112166	-0.757825176453	-4.406356783075	-0.639624198675	-0.6

176	0.480871735356	0.636218790676	0.801662986791	-4.406356783075	0.433543515144	0.3
177	0.480871735356	0.636218790676	0.801662986791	-4.406356783075	0.433543515144	0.3
178	0.480871735356	0.636218790676	0.801662986791	0.868492316345	-5.638977449128	0.3
179	-0.883836518044	0.636218790676	0.037618088743	-0.145230128660	-5.638977449128	0.7
180	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-5.638977449128	-0.6
181	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-5.638977449128	-0.6
182	0.480871735356	0.636218790676	0.801662986791	0.868492316345	-5.638977449128	0.3
183	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
184	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
185	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
186	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
187	1.256921417347	0.636218790676	0.330939867378	-0.145230128660	1.026826884809	-5.4
188	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-5.4

189	-0.072931148213	0.331735426178	-0.600917469982	-0.793014840304	-0.639624198675	-5.4
190	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-5.4
191	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	-5.4
192	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
193	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
194	-0.796611888311	-0.332152747668	-0.596944282776	-0.471765594047	0.324955075439	0.8
195	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
196	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
197	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
198	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
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201	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
202	-0.796611888311	-0.332152747668	-0.596944282776	-0.471765594047	0.324955075439	0.8
203	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
204	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
205	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
206	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
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208	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3

209	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
210	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
211	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
212	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
213	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
214	-0.444338661072	-0.636636112166	-1.737250854771	-0.793014840304	-0.639624198675	-0.6
215	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
216	0.842712105405	-0.636636112166	0.330939867378	-0.793014840304	-0.639624198675	-0.6
217	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
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220	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
221	1.256921417347	0.892169052686	0.330939867378	-0.145230128660	-0.323598214568	-0.3

222	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
223	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
224	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
225	-0.796611888311	-0.332152747668	-0.596944282776	-0.471765594047	0.324955075439	0.8
226	-0.796611888311	-0.332152747668	-0.596944282776	-0.471765594047	0.324955075439	0.8
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232	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
233	-5.548118896330	-5.223051606722	-4.651751133830	-4.406356783075	-5.638977449128	-5.4
234	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
235	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
236	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
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239	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
240	0.331711020919	0.226788871516	-0.791216543943	-0.554246429429	0.401792466751	0.3
241	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
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248	-0.868115115825	-0.076202485658	0.194525795214	0.272266823300	0.389797856345	0.0
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251	1.256921417347	0.892169052686	0.330939867378	-0.145230128660	1.026826884809	0.8
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256	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
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266	0.842712105405	0.892169052686	-0.317799477607	-0.145230128660	1.026826884809	0.8
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283	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
284	-0.072931148213	0.301549995929	-0.460530210611	-0.287750833832	0.731027687549	0.7
285	0.428502793463	-0.557917579429	-0.634308837472	0.368514529003	-0.300079342618	0.8
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291	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
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293	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
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300	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
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302	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
303	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
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305	-0.357114031339	-1.909491015008	-1.412881182278	-1.114264086560	-1.203670870244	-0.6
306	0.341278163729	-0.076202485658	-0.429482316754	-0.426564536089	-0.503484036021	-0.5
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322	-0.796611888311	-0.332152747668	-0.596944282776	-0.471765594047	0.324955075439	0.8
323	-5.548118896330	-5.223051606722	-4.651751133830	-4.406356783075	-5.638977449128	-5.4
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329	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
330	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
331	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
332	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
333	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
334	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
335	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
336	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
337	-0.796611888311	-0.332152747668	-0.596944282776	-0.471765594047	0.324955075439	0.8
338	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
339	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
340	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3

341	0.895081047298	-0.375236434508	-0.303622504140	0.272266823300	1.026826884809	0.8
342	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
343	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
344	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
345	0.066662423414	-0.636636112166	-1.051146955088	-1.031783251179	1.026826884809	-0.3
346	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
347	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
348	1.256921417347	0.892169052686	0.330939867378	-0.145230128660	1.026826884809	0.8
349	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
350	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
351	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
352	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
353	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3

354	0.842712105405	0.589177695512	0.351433501685	-0.034143611126	1.026826884809	-0.3
355	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
356	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
357	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
358	-0.796611888311	-0.332152747668	-0.596944282776	-0.471765594047	0.324955075439	0.8
359	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
360	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
361	1.256921417347	0.892169052686	0.330939867378	-0.145230128660	1.026826884809	0.8
362	-0.868115115825	0.636218790676	-0.617437917082	-0.522812241792	0.400107491605	0.8
363	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
364	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
365	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
366	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
367	-0.082498291023	0.002516047079	-0.600917469982	-0.614286299218	-0.075577527107	0.0
368	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
369	-0.858547973015	-0.636636112166	-0.444009763511	-0.375517888344	-0.503484036021	-0.6
370	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
371	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
372	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
373	-5.548118896330	-5.223051606722	-4.651751133830	-4.406356783075	-5.638977449128	-5.4

374	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
375	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
376	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
377	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
378	-0.357114031339	0.030236076329	-0.276547797489	0.002064224788	0.527622994147	-0.5
379	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
380	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
381	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
382	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
383	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
384	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
385	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
386	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3

387	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
388	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
389	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
390	-0.858547973015	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
391	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
392	0.428502793463	-0.636636112166	-0.894239248617	-0.650494135132	-0.639624198675	0.8
393	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
394	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
395	-0.796611888311	-0.332152747668	-0.596944282776	-0.471765594047	0.324955075439	0.8
396	-0.082498291023	-1.829280474947	0.211046242314	-0.920696733644	-0.639624198675	-0.6
397	0.833144962594	0.286186338338	0.027063829192	-0.109022292746	0.070872270807	0.5
398	0.833144962594	0.286186338338	0.027063829192	-0.109022292746	0.070872270807	0.5
399	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
400	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
401	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
402	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
403	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
404	0.842712105405	0.589177695512	0.330939867378	-0.145230128660	1.026826884809	0.8
405	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
406	-5.548118896330	-5.223051606722	-4.651751133830	-4.406356783075	-5.638977449128	-5.4

407	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
408	-0.444338661072	-0.636636112166	-0.757825176453	-0.793014840304	-0.639624198675	-0.6
409	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
410	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
411	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3
412	0.480871735356	0.636218790676	0.801662986791	0.868492316345	0.433543515144	0.3



Unstandardized Construct Scores

Case	ER	AQ	PR	GV	RB	
1	5.000000000000	5.000000000000	4.629158024776	3.726786233157	5.000000000000	5.0000
2	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
3	4.116138538780	4.652982460554	4.477202096261	3.804945474156	4.924700221493	5.0000
4	5.000000000000	4.773797791578	3.914026668223	3.726786233157	4.782068139153	4.2890
5	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
6	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
7	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
8	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
9	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
10	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
11	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
12	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
13	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
14	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
15	4.534832691373	4.000000000000	4.325971101520	3.363393116578	4.650949186466	4.0000
16	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
17	3.846574943170	4.201312288280	3.820766543817	3.567132658667	4.594403883150	5.0000
18	4.465167308627	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
19	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
20	4.562408120542	3.668185016933	4.105635187264	3.726786233157	5.000000000000	4.6642
21	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
22	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
23	4.781204060271	4.773797791578	4.395076021035	3.904140283323	4.431858597886	4.6690
24	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000

25	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
26	3.846574943170	4.201312288280	3.820766543817	3.567132658667	4.594403883150	5.0000
27	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
28	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
29	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
30	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
31	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
32	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
33	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
34	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
35	4.515934964508	4.213277177442	4.257591115778	4.159653574490	4.912754493243	5.0000
36	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
37	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
38	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
39	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
40	5.000000000000	5.000000000000	4.395076021035	3.726786233157	5.000000000000	5.0000
41	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
42	4.199898212864	3.867219779814	3.848769005259	3.708082050211	4.217931860847	4.0000
43	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
44	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
45	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
46	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
47	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
48	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
49	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
50	5.000000000000	5.000000000000	4.395076021035	3.726786233157	4.782068139153	4.0000

51	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
52	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
53	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
54	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
55	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
56	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
57	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000

58	3.846574943170	4.201312288280	3.820766543817	3.567132658667	4.594403883150	5.0000
59	3.846574943170	4.201312288280	3.820766543817	3.567132658667	4.594403883150	5.0000
60	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
61	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
62	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
63	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
64	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
65	4.465167308627	3.761607005169	3.844921748708	3.948474790679	4.130686354090	4.8057
66	4.000000000000	3.988769355409	3.917873924774	3.363393116578	4.000000000000	4.0955
67	4.362509907678	4.774532036149	4.629158024776	4.018704182946	4.334301462152	4.6642
68	4.199898212864	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
69	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
70	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
71	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
72	4.734730904237	3.520202240368	3.917873924774	3.922089298757	4.492841623607	3.9951
73	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
74	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
75	4.265269095763	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
76	5.000000000000	5.000000000000	4.395076021035	3.726786233157	5.000000000000	5.0000
77	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
78	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
79	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
80	5.000000000000	5.000000000000	4.395076021035	3.726786233157	5.000000000000	5.0000
81	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
82	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
83	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119

84	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
85	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
86	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
87	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
88	3.846574943170	4.201312288280	3.820766543817	3.567132658667	4.594403883150	5.0000
89	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
90	4.781204060271	4.785762680740	4.325971101520	3.248829216956	4.856209189927	4.6682

91	3.846574943170	4.201312288280	3.820766543817	3.567132658667	4.594403883150	5.0000
92	4.102657400949	3.987074969020	3.570462220667	3.462836465502	4.437022449427	5.0000
93	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
94	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
95	4.562408120542	3.853560504264	4.477202096261	3.269606697125	4.856209189927	5.0000
96	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
97	4.581305847407	4.334092508467	3.889871463332	3.389778608500	4.780909411420	5.0000
98	3.749334131254	4.867219779814	4.192333452814	3.230125034010	4.856209189927	5.0000
99	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
100	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
101	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
102	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
103	4.781204060271	4.641751815962	4.325971101520	3.630171348968	5.000000000000	4.9013
104	5.000000000000	5.000000000000	4.395076021035	3.726786233157	5.000000000000	5.0000
105	4.000000000000	4.132780220186	3.697538010518	3.363393116578	4.000000000000	4.0000
106	4.246371368898	4.773797791578	3.958251449074	3.771120740512	5.000000000000	4.2880
107	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
108	3.846574943170	4.201312288280	3.820766543817	3.567132658667	4.594403883150	5.0000
109	3.846574943170	4.201312288280	3.820766543817	3.567132658667	4.594403883150	5.0000
110	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
111	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
112	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
113	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
114	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
115	5.000000000000	5.000000000000	3.697538010518	3.726786233157	5.000000000000	5.0000
116	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000

117	5.000000000000	5.000000000000	4.395076021035	3.726786233157	5.000000000000	5.0000
118	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
119	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
120	4.734730904237	5.000000000000	4.395076021035	3.726786233157	5.000000000000	5.0000
121	4.000000000000	4.000000000000	4.110207377588	3.363393116578	4.075299778507	4.0000
122	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
123	5.000000000000	5.000000000000	4.395076021035	3.726786233157	5.000000000000	5.0000

124	5.000000000000	5.000000000000	4.395076021035	3.726786233157	5.000000000000	5.0000
125	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
126	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
127	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
128	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
129	4.000000000000	4.201312288280	3.697538010518	3.363393116578	4.000000000000	4.0000
130	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
131	3.846574943170	4.201312288280	3.820766543817	3.567132658667	4.594403883150	5.0000
132	5.000000000000	5.000000000000	4.395076021035	3.726786233157	5.000000000000	5.0000
133	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
134	4.246371368898	4.451670172273	3.917873924774	4.045089674867	5.000000000000	4.9013
135	3.846574943170	4.201312288280	3.820766543817	3.567132658667	4.594403883150	5.0000
136	3.846574943170	4.201312288280	3.820766543817	3.567132658667	4.594403883150	5.0000
137	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
138	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
139	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
140	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
141	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
142	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
143	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
144	5.000000000000	5.000000000000	4.395076021035	3.726786233157	5.000000000000	5.0000
145	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
146	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
147	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
148	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
149	3.846574943170	4.201312288280	3.820766543817	3.567132658667	4.594403883150	5.0000

150	1.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
151	1.000000000000	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
152	1.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
153	1.000000000000	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
154	1.000000000000	4.201312288280	3.820766543817	3.567132658667	4.594403883150	5.0000
155	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
156	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119

157	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
158	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
159	3.781204060271	1.000000000000	4.215763723932	3.504342508122	4.213926737039	4.0000
160	4.581305847407	1.000000000000	4.848769005259	4.540747166745	4.693663904663	4.7119
161	4.581305847407	1.000000000000	4.848769005259	4.540747166745	4.693663904663	4.7119
162	3.846574943170	1.000000000000	3.820766543817	3.567132658667	4.594403883150	5.0000
163	3.846574943170	1.000000000000	3.820766543817	3.567132658667	4.594403883150	5.0000
164	4.581305847407	4.867219779814	1.000000000000	4.540747166745	4.693663904663	4.7119
165	4.000000000000	4.000000000000	1.000000000000	3.363393116578	4.000000000000	4.0000
166	4.581305847407	4.867219779814	1.000000000000	4.540747166745	4.693663904663	4.7119
167	4.000000000000	4.000000000000	1.000000000000	3.363393116578	4.000000000000	4.0000
168	3.846574943170	4.201312288280	1.000000000000	3.567132658667	4.594403883150	5.0000
169	4.000000000000	4.000000000000	3.697538010518	3.045089674867	4.000000000000	4.0000
170	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
171	4.050767655881	4.201312288280	4.326696035293	3.504342508122	4.071294654699	3.2880
172	4.097240811916	4.334092508467	4.697538010518	3.600957392311	4.623527977697	5.0000
173	4.581305847407	4.867219779814	4.848769005259	1.000000000000	4.693663904663	4.7119
174	4.581305847407	4.867219779814	4.848769005259	1.000000000000	4.693663904663	4.7119
175	4.000000000000	4.000000000000	3.697538010518	1.000000000000	4.000000000000	4.0000
176	4.581305847407	4.867219779814	4.848769005259	1.000000000000	4.693663904663	4.7119
177	4.581305847407	4.867219779814	4.848769005259	1.000000000000	4.693663904663	4.7119
178	4.581305847407	4.867219779814	4.848769005259	4.540747166745	1.000000000000	4.7119
179	3.749334131254	4.867219779814	4.174740106779	3.726786233157	1.000000000000	4.9013
180	4.000000000000	4.000000000000	3.697538010518	3.363393116578	1.000000000000	4.0000
181	4.000000000000	4.000000000000	3.697538010518	3.363393116578	1.000000000000	4.0000
182	4.581305847407	4.867219779814	4.848769005259	4.540747166745	1.000000000000	4.7119

183	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
184	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
185	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
186	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
187	5.000000000000	4.867219779814	4.395076021035	3.726786233157	5.000000000000	1.0000
188	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	1.0000
189	4.246371368898	4.665907491533	3.848769005259	3.363393116578	4.000000000000	1.0000

190	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	1.0000
191	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	1.0000
192	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
193	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
194	3.846574943170	4.201312288280	3.820766543817	3.567132658667	4.594403883150	5.0000
195	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
196	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
197	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
198	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
199	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
200	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
201	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
202	3.846574943170	4.201312288280	3.820766543817	3.567132658667	4.594403883150	5.0000
203	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
204	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
205	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
206	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
207	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
208	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
209	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
210	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
211	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
212	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
213	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
214	4.000000000000	4.000000000000	3.044949714624	3.363393116578	4.000000000000	4.0000
215	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000

216	4.781204060271	4.000000000000	4.395076021035	3.363393116578	4.000000000000	4.0000
217	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
218	4.000000000000	4.000000000000	3.481049352812	3.363393116578	4.000000000000	4.0000
219	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
220	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
221	5.000000000000	5.000000000000	4.395076021035	3.726786233157	4.205986132597	4.2379
222	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119

223	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
224	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
225	3.846574943170	4.201312288280	3.820766543817	3.567132658667	4.594403883150	5.0000
226	3.846574943170	4.201312288280	3.820766543817	3.567132658667	4.594403883150	5.0000
227	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
228	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
229	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
230	3.846574943170	4.201312288280	3.820766543817	3.567132658667	4.594403883150	5.0000
231	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
232	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
233	1.000000000000	1.000000000000	1.000000000000	1.000000000000	1.000000000000	1.0000
234	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
235	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
236	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
237	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
238	3.846574943170	4.201312288280	3.820766543817	3.567132658667	4.594403883150	5.0000
239	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
240	4.418694152593	4.548329827727	3.670260482848	3.504342508122	4.623527977697	4.6634
241	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
242	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
243	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
244	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
245	3.846574943170	4.201312288280	3.820766543817	3.567132658667	4.594403883150	5.0000
246	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
247	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
248	3.734730904237	4.334092508467	4.325971101520	4.045089674867	4.638277329080	4.4264

249	3.846574943170	4.201312288280	3.820766543817	3.567132658667	4.594403883150	5.0000
250	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
251	5.000000000000	5.000000000000	4.395076021035	3.726786233157	5.000000000000	5.0000
252	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
253	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
254	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
255	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000

256	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
257	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
258	4.218795939729	4.132780220186	3.697538010518	3.363393116578	4.289226515546	4.0000
259	4.265269095763	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
260	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
261	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
262	5.000000000000	5.000000000000	4.395076021035	3.726786233157	5.000000000000	5.0000
263	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
264	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
265	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
266	4.781204060271	5.000000000000	3.962098705625	3.726786233157	5.000000000000	5.0000
267	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
268	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
269	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
270	3.846574943170	4.201312288280	3.820766543817	3.567132658667	4.594403883150	5.0000
271	3.846574943170	4.201312288280	3.820766543817	3.567132658667	4.594403883150	5.0000
272	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
273	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
274	4.781204060271	4.584450392460	4.040377524300	3.744735248590	4.768963683169	5.0000
275	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
276	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
277	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
278	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
279	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
280	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
281	3.846574943170	4.201312288280	3.820766543817	3.567132658667	4.594403883150	5.0000

282	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
283	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
284	4.246371368898	4.641017571392	3.889871463332	3.700400741235	4.837454714736	4.9013
285	4.562408120542	4.093421988236	3.821491477590	4.159653574490	4.217931860847	5.0000
286	4.562408120542	4.093421988236	3.821491477590	4.159653574490	4.217931860847	5.0000
287	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
288	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000

289	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
290	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
291	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
292	3.846574943170	3.426780252132	4.037255201522	3.504342508122	4.856209189927	5.0000
293	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
294	3.846574943170	4.201312288280	3.820766543817	3.567132658667	4.594403883150	5.0000
295	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
296	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
297	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
298	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
299	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
300	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
301	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
302	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
303	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
304	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
305	4.097240811916	3.132780220186	3.261438372329	3.159653574490	3.650949186466	4.0000
306	4.465167308627	4.334092508467	3.886024206781	3.600957392311	4.075299778507	4.0955
307	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
308	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
309	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
310	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
311	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
312	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
313	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
314	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119

315	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
316	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
317	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
318	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
319	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
320	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
321	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119

322	3.846574943170	4.201312288280	3.820766543817	3.567132658667	4.594403883150	5.0000
323	1.000000000000	1.000000000000	1.000000000000	1.000000000000	1.000000000000	1.0000
324	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
325	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
326	4.781204060271	4.427514496702	3.914026668223	4.045089674867	4.507158376393	4.7119
327	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
328	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
329	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
330	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
331	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
332	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
333	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
334	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
335	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
336	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
337	3.846574943170	4.201312288280	3.820766543817	3.567132658667	4.594403883150	5.0000
338	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
339	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
340	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
341	4.800101787136	4.120589433777	4.041102458073	4.045089674867	5.000000000000	5.0000
342	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
343	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
344	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
345	4.362509907678	4.000000000000	3.477202096261	3.222443725034	5.000000000000	4.1942
346	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
347	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119

348	5.000000000000	5.000000000000	4.395076021035	3.726786233157	5.000000000000	5.0000
349	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
350	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
351	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
352	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
353	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
354	4.781204060271	4.785762680740	4.477202096261	3.771120740512	5.000000000000	4.1893

355	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
356	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
357	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
358	3.846574943170	4.201312288280	3.820766543817	3.567132658667	4.594403883150	5.0000
359	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
360	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
361	5.000000000000	5.000000000000	4.395076021035	3.726786233157	5.000000000000	5.0000
362	3.734730904237	4.867219779814	3.738640468590	3.486393492689	4.642282452888	5.0000
363	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
364	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
365	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
366	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
367	4.199898212864	4.427514496702	3.848769005259	3.540747166745	4.349050813534	4.4273
368	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
369	3.781204060271	4.000000000000	4.000000000000	3.681696558289	4.075299778507	4.0000
370	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
371	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
372	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
373	1.000000000000	1.000000000000	1.000000000000	1.000000000000	1.000000000000	1.0000
374	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
375	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
376	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
377	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
378	4.097240811916	4.438745141294	4.065257662964	3.922089298757	4.694822632396	4.0907
379	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
380	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119

381	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
382	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
383	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
384	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
385	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
386	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
387	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000

388	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
389	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
390	3.781204060271	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
391	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
392	4.562408120542	4.000000000000	3.628433091003	3.389778608500	4.000000000000	5.0000
393	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
394	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
395	3.846574943170	4.201312288280	3.820766543817	3.567132658667	4.594403883150	5.0000
396	4.199898212864	3.213277177442	4.436099638188	3.266778232390	4.000000000000	4.0000
397	4.734730904237	4.571525361480	4.260713438556	3.877754791402	4.428355715848	4.8106
398	4.734730904237	4.571525361480	4.260713438556	3.877754791402	4.428355715848	4.8106
399	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
400	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
401	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
402	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
403	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
404	4.781204060271	4.785762680740	4.395076021035	3.726786233157	5.000000000000	5.0000
405	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
406	1.000000000000	1.000000000000	1.000000000000	1.000000000000	1.000000000000	1.0000
407	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
408	4.000000000000	4.000000000000	3.697538010518	3.363393116578	4.000000000000	4.0000
409	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
410	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
411	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119
412	4.581305847407	4.867219779814	4.848769005259	4.540747166745	4.693663904663	4.7119



Data

Original Indicator Scores

Case	ER1	ER2	ER3	ER4	AQ1	
1	5.000000000000	5.000000000000	5.000000000000	5.000000000000	5.000000000000	5.0000

2	5.000000000000	4.000000000000	5.000000000000	4.000000000000	4.000000000000	5.0000
3	4.000000000000	3.000000000000	5.000000000000	4.000000000000	4.000000000000	5.0000
4	5.000000000000	5.000000000000	5.000000000000	5.000000000000	5.000000000000	5.0000
5	4.000000000000	4.000000000000	4.000000000000	4.000000000000	4.000000000000	4.0000
6	5.000000000000	4.000000000000	5.000000000000	4.000000000000	4.000000000000	5.0000
7	5.000000000000	4.000000000000	5.000000000000	4.000000000000	4.000000000000	5.0000
8	5.000000000000	4.000000000000	5.000000000000	4.000000000000	4.000000000000	5.0000
9	5.000000000000	4.000000000000	5.000000000000	4.000000000000	4.000000000000	5.0000
10	4.000000000000	4.000000000000	4.000000000000	4.000000000000	4.000000000000	4.0000
11	5.000000000000	4.000000000000	5.000000000000	4.000000000000	4.000000000000	5.0000
12	5.000000000000	4.000000000000	5.000000000000	4.000000000000	4.000000000000	5.0000
13	5.000000000000	4.000000000000	5.000000000000	4.000000000000	4.000000000000	5.0000
14	4.000000000000	4.000000000000	4.000000000000	4.000000000000	4.000000000000	4.0000
15	4.000000000000	4.000000000000	5.000000000000	5.000000000000	4.000000000000	4.0000
16	5.000000000000	4.000000000000	5.000000000000	4.000000000000	4.000000000000	5.0000
17	5.000000000000	3.000000000000	4.000000000000	3.000000000000	4.000000000000	5.0000
18	5.000000000000	5.000000000000	4.000000000000	4.000000000000	4.000000000000	4.0000
19	5.000000000000	4.000000000000	5.000000000000	4.000000000000	4.000000000000	5.0000
20	5.000000000000	5.000000000000	5.000000000000	3.000000000000	5.000000000000	5.0000
21	5.000000000000	4.000000000000	5.000000000000	4.000000000000	4.000000000000	5.0000
22	4.000000000000	4.000000000000	4.000000000000	4.000000000000	4.000000000000	4.0000
23	5.000000000000	5.000000000000	5.000000000000	4.000000000000	5.000000000000	5.0000
24	4.000000000000	4.000000000000	4.000000000000	4.000000000000	4.000000000000	4.0000
25	5.000000000000	4.000000000000	5.000000000000	4.000000000000	4.000000000000	5.0000
26	5.000000000000	3.000000000000	4.000000000000	3.000000000000	4.000000000000	5.0000
27	4.000000000000	4.000000000000	4.000000000000	4.000000000000	4.000000000000	4.0000
28	5.000000000000	4.000000000000	5.000000000000	4.000000000000	4.000000000000	5.0000
29	4.000000000000	4.000000000000	4.000000000000	4.000000000000	4.000000000000	4.0000
30	4.000000000000	4.000000000000	4.000000000000	4.000000000000	4.000000000000	4.0000
31	5.000000000000	4.000000000000	5.000000000000	4.000000000000	4.000000000000	5.0000
32	4.000000000000	4.000000000000	4.000000000000	4.000000000000	4.000000000000	4.0000
33	4.000000000000	4.000000000000	4.000000000000	4.000000000000	4.000000000000	4.0000
34	4.000000000000	4.000000000000	4.000000000000	4.000000000000	4.000000000000	4.0000

35	4.000000000000	5.000000000000	5.000000000000	4.000000000000	4.000000000000	5.0000
36	4.000000000000	4.000000000000	4.000000000000	4.000000000000	4.000000000000	4.0000
37	5.000000000000	4.000000000000	5.000000000000	4.000000000000	4.000000000000	5.0000
38	4.000000000000	4.000000000000	4.000000000000	4.000000000000	4.000000000000	4.0000
39	4.000000000000	4.000000000000	4.000000000000	4.000000000000	4.000000000000	4.0000
40	5.000000000000	5.000000000000	5.000000000000	5.000000000000	5.000000000000	5.0000
41	4.000000000000	4.000000000000	4.000000000000	4.000000000000	4.000000000000	4.0000
42	4.000000000000	5.000000000000	4.000000000000	4.000000000000	3.000000000000	4.0000
43	4.000000000000	4.000000000000	4.000000000000	4.000000000000	4.000000000000	4.0000
44	5.000000000000	4.000000000000	5.000000000000	4.000000000000	4.000000000000	5.0000
45	4.000000000000	4.000000000000	4.000000000000	4.000000000000	4.000000000000	4.0000
46	5.000000000000	4.000000000000	5.000000000000	4.000000000000	4.000000000000	5.0000
47	5.000000000000	4.000000000000	5.000000000000	4.000000000000	4.000000000000	5.0000
48	4.000000000000	4.000000000000	4.000000000000	4.000000000000	4.000000000000	4.0000
49	4.000000000000	4.000000000000	4.000000000000	4.000000000000	4.000000000000	4.0000
50	5.000000000000	5.000000000000	5.000000000000	5.000000000000	5.000000000000	5.0000
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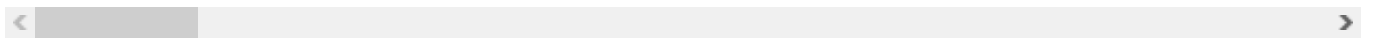
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412	5.000000000000	4.000000000000	5.000000000000	4.000000000000	4.000000000000	5.0000



Standardized Indicator Scores

Case	ER1	ER2	ER3	ER4	AQ1	
1	0.575156238836	1.612085356445	0.678128090077	1.833487652856	1.772102836954	0.5
2	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
3	-0.810600313213	-1.528241673604	0.678128090077	0.191320450733	-0.012998309318	0.5
4	0.575156238836	1.612085356445	0.678128090077	1.833487652856	1.772102836954	0.5
5	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.5
6	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
7	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
8	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
9	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
10	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.5
11	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
12	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
13	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
14	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.5

15	-0.810600313213	0.041921841421	0.678128090077	1.833487652856	-0.012998309318	-0.8
16	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
17	0.575156238836	-1.528241673604	-0.698171284858	-1.450846751391	-0.012998309318	0.5
18	0.575156238836	1.612085356445	-0.698171284858	0.191320450733	-0.012998309318	-0.8
19	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
20	0.575156238836	1.612085356445	0.678128090077	-1.450846751391	1.772102836954	0.5
21	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
22	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
23	0.575156238836	1.612085356445	0.678128090077	0.191320450733	1.772102836954	0.5
24	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
25	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
26	0.575156238836	-1.528241673604	-0.698171284858	-1.450846751391	-0.012998309318	0.5
27	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
28	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
29	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
30	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8

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32	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
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34	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
35	-0.810600313213	1.612085356445	0.678128090077	0.191320450733	-0.012998309318	0.5
36	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
37	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
38	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
39	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
40	0.575156238836	1.612085356445	0.678128090077	1.833487652856	1.772102836954	0.5
41	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
42	-0.810600313213	1.612085356445	-0.698171284858	0.191320450733	-1.798099455589	-0.8
43	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
44	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
45	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
46	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
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49	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
50	0.575156238836	1.612085356445	0.678128090077	1.833487652856	1.772102836954	0.5
51	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
52	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
53	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
54	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
55	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
56	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
57	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
58	0.575156238836	-1.528241673604	-0.698171284858	-1.450846751391	-0.012998309318	0.5
59	0.575156238836	-1.528241673604	-0.698171284858	-1.450846751391	-0.012998309318	0.5
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61	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
62	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
63	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5

64	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
65	0.575156238836	1.612085356445	-0.698171284858	0.191320450733	-0.012998309318	0.5
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67	0.575156238836	0.041921841421	0.678128090077	-1.450846751391	1.772102836954	0.5
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71	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
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74	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
75	0.575156238836	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
76	0.575156238836	1.612085356445	0.678128090077	1.833487652856	1.772102836954	0.5
77	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
78	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
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85	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
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88	0.575156238836	-1.528241673604	-0.698171284858	-1.450846751391	-0.012998309318	0.5
89	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
90	0.575156238836	1.612085356445	0.678128090077	0.191320450733	1.772102836954	0.5
91	0.575156238836	-1.528241673604	-0.698171284858	-1.450846751391	-0.012998309318	0.5
92	-0.810600313213	1.612085356445	-2.074470659793	1.833487652856	-0.012998309318	0.5
93	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
94	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
95	0.575156238836	1.612085356445	0.678128090077	-1.450846751391	-1.798099455589	0.5
96	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5

97	0.575156238836	0.041921841421	0.678128090077	0.191320450733	1.772102836954	0.5
98	0.575156238836	-1.528241673604	-2.074470659793	0.191320450733	-0.012998309318	0.5
99	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
100	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
101	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
102	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
103	0.575156238836	1.612085356445	0.678128090077	0.191320450733	-0.012998309318	0.5
104	0.575156238836	1.612085356445	0.678128090077	1.833487652856	1.772102836954	0.5
105	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	1.772102836954	-0.8
106	0.575156238836	1.612085356445	-0.698171284858	-1.450846751391	1.772102836954	0.5
107	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
108	0.575156238836	-1.528241673604	-0.698171284858	-1.450846751391	-0.012998309318	0.5
109	0.575156238836	-1.528241673604	-0.698171284858	-1.450846751391	-0.012998309318	0.5
110	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
111	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
112	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
113	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8

114	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
115	0.575156238836	1.612085356445	0.678128090077	1.833487652856	1.772102836954	0.5
116	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
117	0.575156238836	1.612085356445	0.678128090077	1.833487652856	1.772102836954	0.5
118	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
119	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
120	-0.810600313213	1.612085356445	0.678128090077	1.833487652856	1.772102836954	0.5
121	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
122	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
123	0.575156238836	1.612085356445	0.678128090077	1.833487652856	1.772102836954	0.5
124	0.575156238836	1.612085356445	0.678128090077	1.833487652856	1.772102836954	0.5
125	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
126	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
127	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
128	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
129	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	0.5

130	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
131	0.575156238836	-1.528241673604	-0.698171284858	-1.450846751391	-0.012998309318	0.5
132	0.575156238836	1.612085356445	0.678128090077	1.833487652856	1.772102836954	0.5
133	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
134	0.575156238836	1.612085356445	-0.698171284858	-1.450846751391	-0.012998309318	-0.8
135	0.575156238836	-1.528241673604	-0.698171284858	-1.450846751391	-0.012998309318	0.5
136	0.575156238836	-1.528241673604	-0.698171284858	-1.450846751391	-0.012998309318	0.5
137	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
138	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
139	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
140	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
141	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
142	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
143	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
144	0.575156238836	1.612085356445	0.678128090077	1.833487652856	1.772102836954	0.5
145	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
146	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5

147	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
148	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
149	0.575156238836	-1.528241673604	-0.698171284858	-1.450846751391	-0.012998309318	0.5
150	-4.967869969360	-4.668568703653	-4.827069409663	-4.735181155638	-0.012998309318	-0.8
151	-4.967869969360	-4.668568703653	-4.827069409663	-4.735181155638	-0.012998309318	0.5
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155	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
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158	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
159	-0.810600313213	0.041921841421	-0.698171284858	-1.450846751391	-5.368301748133	-5.0
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161	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-5.368301748133	-5.0
162	0.575156238836	-1.528241673604	-0.698171284858	-1.450846751391	-5.368301748133	-5.0

163	0.575156238836	-1.528241673604	-0.698171284858	-1.450846751391	-5.368301748133	-5.0
164	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
165	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
166	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
167	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
168	0.575156238836	-1.528241673604	-0.698171284858	-1.450846751391	-0.012998309318	0.5
169	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
170	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
171	-2.196356865262	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
172	-0.810600313213	0.041921841421	0.678128090077	-1.450846751391	1.772102836954	0.5
173	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
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175	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
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191	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
192	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
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200	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
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203	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
204	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
205	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
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211	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
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214	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
215	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
216	0.575156238836	1.612085356445	0.678128090077	0.191320450733	-0.012998309318	-0.8
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224	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
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234	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
235	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
236	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
237	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
238	0.575156238836	-1.528241673604	-0.698171284858	-1.450846751391	-0.012998309318	0.5
239	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
240	-0.810600313213	1.612085356445	-0.698171284858	1.833487652856	1.772102836954	0.5
241	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
242	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
243	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
244	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
245	0.575156238836	-1.528241673604	-0.698171284858	-1.450846751391	-0.012998309318	0.5

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247	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
248	-2.196356865262	0.041921841421	-0.698171284858	0.191320450733	1.772102836954	0.5
249	0.575156238836	-1.528241673604	-0.698171284858	-1.450846751391	-0.012998309318	0.5
250	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
251	0.575156238836	1.612085356445	0.678128090077	1.833487652856	1.772102836954	0.5
252	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
253	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
254	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
255	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
256	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
257	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
258	-0.810600313213	0.041921841421	-0.698171284858	1.833487652856	1.772102836954	-0.8
259	0.575156238836	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
260	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
261	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5

262	0.575156238836	1.612085356445	0.678128090077	1.833487652856	1.772102836954	0.5
263	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
264	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
265	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
266	0.575156238836	1.612085356445	0.678128090077	0.191320450733	1.772102836954	0.5
267	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
268	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
269	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
270	0.575156238836	-1.528241673604	-0.698171284858	-1.450846751391	-0.012998309318	0.5
271	0.575156238836	-1.528241673604	-0.698171284858	-1.450846751391	-0.012998309318	0.5
272	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
273	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
274	0.575156238836	1.612085356445	0.678128090077	0.191320450733	1.772102836954	-0.8
275	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
276	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
277	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
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279	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
280	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
281	0.575156238836	-1.528241673604	-0.698171284858	-1.450846751391	-0.012998309318	0.5
282	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
283	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
284	0.575156238836	1.612085356445	-0.698171284858	-1.450846751391	-0.012998309318	0.5
285	0.575156238836	1.612085356445	0.678128090077	-1.450846751391	-1.798099455589	-0.8
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287	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
288	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
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291	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
292	0.575156238836	-1.528241673604	-0.698171284858	-1.450846751391	-1.798099455589	-0.8
293	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
294	0.575156238836	-1.528241673604	-0.698171284858	-1.450846751391	-0.012998309318	0.5

295	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
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297	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
298	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
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300	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
301	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
302	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.8
303	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
304	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
305	-0.810600313213	0.041921841421	0.678128090077	-1.450846751391	-0.012998309318	-2.2
306	0.575156238836	1.612085356445	-0.698171284858	0.191320450733	1.772102836954	0.5
307	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
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311	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5

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313	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
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321	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
322	0.575156238836	-1.528241673604	-0.698171284858	-1.450846751391	-0.012998309318	0.5
323	-4.967869969360	-4.668568703653	-4.827069409663	-4.735181155638	-5.368301748133	-5.0
324	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
325	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
326	0.575156238836	1.612085356445	0.678128090077	0.191320450733	-0.012998309318	0.5
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341	0.575156238836	0.041921841421	0.678128090077	1.833487652856	1.772102836954	0.5
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354	0.575156238836	1.612085356445	0.678128090077	0.191320450733	1.772102836954	0.5
355	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
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357	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
358	0.575156238836	-1.528241673604	-0.698171284858	-1.450846751391	-0.012998309318	0.5
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373	-4.967869969360	-4.668568703653	-4.827069409663	-4.735181155638	-5.368301748133	-5.0
374	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
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395	0.575156238836	-1.528241673604	-0.698171284858	-1.450846751391	-0.012998309318	0.5
396	-0.810600313213	1.612085356445	-0.698171284858	0.191320450733	-1.798099455589	-0.5
397	-0.810600313213	1.612085356445	0.678128090077	1.833487652856	1.772102836954	0.5
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402	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
403	-0.810600313213	0.041921841421	-0.698171284858	0.191320450733	-0.012998309318	-0.5
404	0.575156238836	1.612085356445	0.678128090077	0.191320450733	1.772102836954	0.5
405	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
406	-4.967869969360	-4.668568703653	-4.827069409663	-4.735181155638	-5.368301748133	-5.0
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410	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5

411	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5
412	0.575156238836	0.041921841421	0.678128090077	0.191320450733	-0.012998309318	0.5

Bootstrap

Direct Effects Inference

Effect	Original coefficient	Standard bootstrap results					Percentile bootstrap quantiles			
		Mean value	Standard error	t-value	p-value (2-sided)	p-value (1-sided)	0.5%	2.5%	97.5%	99.5%
ER -> OU	0.1411	0.1406	0.0554	2.5476	0.0110	0.0055	0.0228	0.0469	0.2684	0.3359
AQ -> OU	0.1469	0.1449	0.0558	2.6338	0.0086	0.0043	0.0381	0.0546	0.2724	0.3327
PR -> OU	0.1423	0.1412	0.0635	2.2423	0.0252	0.0126	0.0283	0.0494	0.2952	0.4023
GV -> OU	0.0961	0.0966	0.0572	1.6812	0.0930	0.0465	0.0033	0.0221	0.2296	0.3119
RB -> OU	0.0615	0.0605	0.0395	1.5574	0.1197	0.0598	-0.0207	-0.0019	0.1463	0.1990
FC -> OU	0.1012	0.0965	0.0438	2.3090	0.0211	0.0106	-0.0032	0.0204	0.1939	0.2171
IN -> OU	0.1984	0.1995	0.0640	3.0995	0.0020	0.0010	0.0768	0.1001	0.3629	0.4498
EM -> OU	0.0880	0.0785	0.0455	1.9337	0.0534	0.0267	-0.0922	-0.0177	0.1615	0.1789

Indirect Effects Inference

Effect	Original coefficient	Standard bootstrap results					Percentile bootstrap quantiles			
		Mean value	Standard error	t-value	p-value (2-sided)	p-value (1-sided)	0.5%	2.5%	97.5%	99.5%

Total Effects Inference

Effect	Original coefficient	Standard bootstrap results					Percentile bootstrap quantiles			
		Mean value	Standard error	t-value	p-value (2-sided)	p-value (1-sided)	0.5%	2.5%	97.5%	99.5%
ER -> OU	0.1411	0.1406	0.0554	2.5476	0.0110	0.0055	0.0228	0.0469	0.2684	0.3359
AQ -> OU	0.1469	0.1449	0.0558	2.6338	0.0086	0.0043	0.0381	0.0546	0.2724	0.3327
PR -> OU	0.1423	0.1412	0.0635	2.2423	0.0252	0.0126	0.0283	0.0494	0.2952	0.4023
GV -> OU	0.0961	0.0966	0.0572	1.6812	0.0930	0.0465	0.0033	0.0221	0.2296	0.3119
RB -> OU	0.0615	0.0605	0.0395	1.5574	0.1197	0.0598	-0.0207	-0.0019	0.1463	0.1990
FC -> OU	0.1012	0.0965	0.0438	2.3090	0.0211	0.0106	-0.0032	0.0204	0.1939	0.2171
IN -> OU	0.1984	0.1995	0.0640	3.0995	0.0020	0.0010	0.0768	0.1001	0.3629	0.4498
EM -> OU	0.0880	0.0785	0.0455	1.9337	0.0534	0.0267	-0.0922	-0.0177	0.1615	0.1789

Loadings T-Values

Indicator	ER	AQ	PR	GV	RB	FC	IN	EM	OU
ER1	27.6669								
ER2	16.0645								
ER3	96.7434								
ER4	15.8620								
AQ1		10.4534							
AQ2		59.9403							
AQ3		134.1090							
AQ4		132.4583							
AQ5		70.0018							
PR2			114.8452						
PR3			148.2285						
PR4			24.3592						
PR5			58.4888						

PR6			46.2420					
GV2				50.5250				
GV3				31.4201				
GV4				20.9105				
GV5				88.2365				
GV6				123.5403				
RB2					8.0322			
RB3					65.6748			
RB4					8.8805			
RB5					61.0730			
RB6					11.8050			
RB7					91.7034			
FC1						8.8209		
FC2						8.4693		
FC3						50.9173		
FC4						48.4395		
FC5						49.9866		
FC6						9.5269		
IN1							29.6954	
IN2							68.1415	
IN3							29.2045	
IN4							33.5717	
IN5							74.3899	
EM1								76.2883
EM2								14.3606
EM4								76.5891
EM5								113.0186
EM6								27.4857
OU1								104.7781
OU2								257.5760
OU4								31.7084
OU6								287.0380
OU7								13.3945

Weights T-Values

Indicator	ER	AQ	PR	GV	RB	FC	IN	EM	OU
ER1	14.5508								
ER2	11.1898								
ER3	11.5660								
ER4	15.7861								
AQ1		6.2055							
AQ2		28.0201							
AQ3		24.5156							
AQ4		25.1719							
AQ5		28.6274							
PR2			37.7404						
PR3			38.9155						
PR4			10.4973						
PR5			33.3346						
PR6			22.9180						
GV2				15.8705					
GV3				10.4011					
GV4				10.9530					
GV5				24.6243					
GV6				23.4428					
RB2					2.0920				
RB3					10.3168				
RB4					2.7103				
RB5					7.0164				
RB6					7.5728				
RB7					10.1557				
FC1						2.3026			
FC2						2.9119			
FC3						8.4996			
FC4						8.3032			
FC5						8.0288			
FC6						3.1003			

IN1							16.1182		
IN2							12.7203		
IN3							13.8862		
IN4							17.5000		
IN5							12.5486		
EM1								20.7444	
EM2								3.7113	
EM4								20.9358	
EM5								22.0977	
EM6								10.2394	
OU1									29.5405
OU2									33.6329
OU4									33.5567
OU6									31.8599
OU7									7.8630

Discriminant Validity: HTMT Inference

Construct	ER	AQ	PR	GV	RB	FC	IN	EM	OU
ER									
AQ	0.7872								
PR	0.7357	0.7993							
GV	0.6638	0.7495	0.8840						
RB	0.6917	0.6818	0.6211	0.5598					
FC	0.5856	0.6342	0.5743	0.5414	0.7793				
IN	0.7988	0.7244	0.6354	0.5481	0.5917	0.5035			
EM	0.4772	0.6171	0.8361	0.8981	0.3659	0.3539	0.3627		
OU	0.8157	0.7958	0.7994	0.7496	0.6469	0.5880	0.7622	0.6126	