Towards an index to assess the novelty value of the investment in World Cup Stadia

By

Vusi Phillip Mazibuko

Student No: 19850316

A dissertation submitted in fulfilment for the requirements of Master of Management Sciencs: Public Management

In the Faculty of Management Sciences: Public Management.
Durban University of Technology.
Durban, South Africa

APPROVED FOR FINAL SUBMISSION

[redacted]

Supervisor: Prof. Pumela Msweli **Date: 29 May 2017**

DECLARATION

The Registrar (Academic)
Durban University of Technology

Dear Sir or Madam

I Vusi Phillip Mazibuko, 19850316

Hereby declare that the dissertation entitled:

Towards an index to assess the novelty value of the investment in World Cup Stadia

Is the result of my own investigation and research and that it has not been submitted in part or in full, for any other degree or any other institution of higher learning. Subsequently, other sources are acknowledged and giving explicit references.

Signed: 

Date: 29 May 2017

Table of Contents

Table of Tables

Table of Figures

Towards an index to assess the novelty value of the investment in World Cup Stadia

Vusi Phillip Mazibuko

A research thesis submitted to the Faculty of Management Sciences,
Durban University of Technology, Durban, in partial fulfilment of the requirements for the Masters degree in Public Management

Durban, May 2017

ABSTRACT

The costs of bidding to host mega sporting events such as the Olympics and FIFA World cups are huge. The demand for massive infrastructure to deliver such games is high irrespective of slow economic growth and constrained fiscal budgets. Very few governments are able to properly assess the actual economic value of the investments in infrastructure. The existing infrastructure appraisal and prioritisation methodologies usually take a very narrow view of value. There is scholarly evidence that there is little effort directed towards studies that investigate intangible benefits associated with infrastructural investment in stadia. Much research effort has been invested in the development of methods and models to measure the economic impacts of mega events. While the focus has been, on balance, on financial benefits of hosting mega events, the independent empirical research has found no evidence of economic benefits associated with mega sport events.

This study then determined, first the conceptual definition, and the nature of novelty value derived from infrastructural investment. Secondly, an index was constructed to assess the novelty value of infrastructural investment on stadia. The index creation process commenced with the identification of items that define the concept from literature. This was followed by interviews of key informants who are experts and insightful on world cup stadia infrastructural investment. The themes from literature as well as insights from key informants shaped the survey instrument for the second phase of the study. A sample (n =399) was drawn from the study population which is made up of patrons of Moses Mabhida stadium. Factor analysis, a multivariate analytical tool was used to develop a reliable novelty value index (V-ndex). The constructed index has three valid and reliable constructs; spectator experience, novelty continuance and modernity. These three construct define the nonfinancial value, which this study describes as novelty value derived from infrastructural investment. It is therefore recommended that when policy makers seek to assess the value of infrastructural investment on sporting facilities, they incorporate non financial value to the financial value added by investment.

DECLARATION

I, Vusi Phillip Mazibuko, declare that this research is my own, unaided work, except as indicated in the acknowledgements, the text and the references. It is submitted in partial fulfilment for the requirement for the degree of in the Faculty of Management Sciences at the Durban University of Technology, Durban.

It has not been submitted before, either whole or in part, for any degree or examination at this or any other university.

Vusi Phillip Mazibuko

Signed at **Durban** on the **29th** May **2017**

DEDICATION

This thesis is dedicated to my late mother, Ntomb'ningi Philippinah Cele (MaShezi).

Your spirit lives on.....

ACKNOWLEDGEMENTS

To all those who assisted in this thesis, thank you. To my family, Gugu Mazibuko and the kids, your support and encouragement is appreciated. To the bigger family, without you it would not have been possible. My work colleagues particularly Zama Nyawose thanks so much. Professor Msweli, my supervisor, no amount of words can best describe my appreciation, you provided the best experience ever for me. What I learnt from you, I can't trade it, even if it was to be the last thing on earth. To Dr. Gumede, my boss, colleague, friend and comrade, thanks for your support, the struggle continues. Academic achievers, well done team. To the study participants thanks for your time, is truly valued.

Chapter 1

1.1 Introduction

Countries and cities invest in infrastructure to host mega sporting events like the FIFA World Cup and Olympics not just for excitement and media exposure. There are always positive expectations and lasting returns on the investment made. The value derived from such investments can be broadly categorised into tangible (economic) and intangible (non-economic) benefits. The economic benefits of mega sporting events on host countries and cities have been broadly studied. Some of the economic benefits include; job creation, tourism spend, promotion of domestic products in the global market, urban regeneration and infrastructural improvements (Humphrey and Fraser 2015:03; Bohlmann and van Heerden 2005:12; Barclay 2009:67; Gratton, Shibli and Coleman 2006:57; Coates and Humphreys 2003:23; Valente and Tur 2013:106 and de Aragao 2015:16).

To the contrary not many studies have focused on the intangible benefits and the infrastructural investment associated with mega sporting events. There is consensus in literature that such benefits are difficult to measure. These include social cohesion, image, enhancement in national pride, national team's performance, prestige, nation building, spectator experience, stadium visits, spectator numbers, comfort, atmosphere, feel good factor, fan happiness, patriotism, enhanced international reputation, unity, civic pride, renewed community spirits, ambience and source of inspiration (Allmers and Maennig 2009:509; Burton 2003:35; Heisy 2009:02 and Humphrey and Fraser 2015:04).

At the heart of this study is novelty value derived from stadia infrastructural investment. There are different views amongst scholars pertaining to the concept of novelty value derived from investing on World Cup stadia. Not only is there a lack of conceptual clarity on what constitutes novelty value, there is neither a mechanism to measure novelty value, nor a tool to track the value of stadia investment over a period of time.

1.2 Problem Statement

The costs of bidding to host mega sporting events like Olympics and FIFA World cups and the infrastructure investment required to deliver such spectacular events are huge. The question is whether or not the return on such an investment can be justified. According to Humphrey and Fraser (2015:02) hosting these events require huge sums of investment. Accordingly, South Africa is reported to have invested over $ 4 billion to host the 2010 FIFA

World Cup while Brazil is estimated to have spent $83 billion to host both Rio Olympics and 2014 FIFA World Cup. On the other hand China splurged no less than $40 billion to stage the 2008 Beijing Olympics. By comparison, in preparing to stage the 2022 FIFA World Cup, Qatar is expected to spend approximately $70 billion (PWC 2011:05 &06; Essex and Chalky 2003:05 and 2010 FIFA World Cup Country Report 2013:81).

While there are arguments in support of the capability of mega sporting events in bringing about both social and economic opportunities, on the other hand there are strong views being advanced against such arguments. Baumann and Matheson (2013:19) caution developing countries in particular to shy away from employing mega sporting events to advance economic development. Likewise, KPMG (2016:01) calls for a rethink in value received from infrastructure investment associated with event hosting. Similarly, Allmers and Maennig (2009:35) admit that there is direct economic impact associated with infrastructural investment in sport even though such investments usually fall short of meeting expectations. In the case of Durban 2022 Commonwealth Games, Gumede, Mazibuko and Msweli (2017:61) are sceptical about the financial ability of Africa to host the games. In a piece titled: *Commonwealth Games: Can Africa afford to host the Games,* the authors conclude that the emphases should not be on the R6.8 billion hosting price tag, rather on the novelty values that preserve social cohesion such as national identity, national pride and patriotism. Galloway (2017:01) confirmed that following similar doubts on the financial ability of Durban hosting the games in 2022, the Commonwealth Games Federation pulled the rug on South Africa's rights to host the games. Subsequently, on the 14th March 2017, addressing the media in Durban, the then Minister of Sport and Recreation in South Africa, Mr. Fikile Mbalula confirmed government's unwillingness to commit to giving certain financial guarantees that may occur through hosting (Galloway 2017:01).

There is evidence in literature that hosting transformational large-scale mega-events may result in infrastructure legacy and such events can best serve as catalyst for development (Essex and Chelky 2003; Grix and Lee 2013). However Florek and Breitbarth (2008:80) refute that there are large benefits associated with mega events, the authors places more emphases on soft benefits such as image. Similarly, Heisy (2009:06) suggests that the emphasis is often on economic impacts rather than on intangible benefits on the basis that they are difficult to measure. Heisy (2009:06) further argues that environmental economics have been studied using different methods, the author suggests that sports economists may have to take on the same route.

This study assumes a novelty value framework as proposed by Allmers and Maennig (2009:509). Scholars adopt different approaches to the concept of novelty value derived

from investing on world cup stadia. According to Allmers and Maennig (2009:509) hosting a world cup should not only be limited to building a stadium, it should also bring about long term benefits. Therefore, equally important is building novelty value (Allmers and Maennig 2009:509). Burton (2003:35) agrees with this approach. According to Burton (2003:35) it is not easy to justify investment on hosting events only on financial basis without taking into consideration the plight of the neighbourhood around where the investment is being made. Different scholars advance different approaches, arguments and definitions in unpacking novelty value. It is generally agreed that novelty is not clearly defined in literature (Li and Croft 2004:02; Gershman and Niv 2015:394). Some approaches in novelty are in science, e-business, tourism and stadia contexts.

This study looks at novelty in stadia context and seeks to construct an index to quantify the novelty value of infrastructural investment on stadia. Not only is there a lack of conceptual clarity on what constitutes novelty value, there is neither a mechanism to measure novelty value, nor a tool to track the value of stadia investment over a period of time. To fill this gap in knowledge, this study is framed around two main objectives: 1) To determine the conceptual definition of novelty value using literature as well as primary data from policymakers, mega sport event officials, and world cup stadia stakeholders. 2) To determine the drivers of novelty value derived from stadia infrastructural investment. The study therefore, seeks to provide a scientific valid index (tool) to measure novelty value derived from stadia infrastructural investment

1.3 Purpose and significance of the study

Purpose of this study is two-fold: 1) to determine the conceptual definition of novelty value using literature as well as primary data from policymakers, mega sport event officials, and world cup stadia stakeholders. 2) To determine the drivers of novelty value derived from stadia infrastructure investment and construct a scientific valid index (tool) to measure novelty value derived from stadia infrastructural investment.

The study contributes towards the conceptual knowledge on novelty value derived from infrastructural investment in world cup stadia. Studies in this subject have been largely biased towards economic impact. There is evidence in literature that this subject has not been fully investigated. Other researchers stand to benefit from the insight provided in this study for further investigation.

Cities and countries that intend to bid to host mega sporting events will benefit from the study as they often seek reasons to justify their infrastructural investment in stadia to host these events. This study provides a new instrument to measure novelty value derived from infrastructural investment in stadia. The study will also assist policy makers and governments in developing and improving bidding strategies and plans. International sport federations stand to benefit when preparing bid documents for candidate hosting cities and countries. Stadium managers also stand to benefit from the study, as the study provides key stadium experience attributes which inform the value index that can help to improve services and offerings. The scientific tool (value index) can also be used as a monitoring and evaluation instrument for cities hosting mega sport events.

1.4 Research design

The gap in knowledge related to novelty value derived from investing in world cup stadia and the lack of conceptual framework that clearly define what constitutes novelty value is what this study is framed against. The study objectives are firstly to contribute in the conceptual definition of novelty value based on literature, secondly to determine novelty value drivers derived from stadia infrastructural investment with an intention to construct an index to measure novelty value.

The index creation process commences with the identification of items that define the concept from literature. Followed by interviews of key informants who are experts and insightful on world cup stadia infrastructural investment. Shaping the measuring instrument for interviews are the themes related to novelty value from literature. Purposive sampling is used to select 15 study participants who are experts on assumption that they have capacity to conceptualise. The sequential mixed data collection strategies are employed consequently resulting in a two phased approach.

In the subsequent phase, sample selection involves non probability sampling technique, and intentionally convenience sampling technique as population units are selected based on availability. Population refers to patrons of Moses Mabhida Stadium in Durban. The population size is (n=399) arrived at by averaging the annual number of stadium visitors between 2010 and 2015. The survey instrument is in two part, firstly demographic details of the participants, secondly, questions that capture novelty value measured in five-point Likert scale. The instrument is distributed at Moses Mabhida Stadium during events and stadium attractions.

The first phase of data which is qualitative in nature is analysed using content analysis technique. The themes derived through content analysis technique inform the structure of the framework which is adapted for the next phase. In this phase, factor analysis a quantitative analytical tool is used to develop statistically significant dimensions of the index.

1.5 Delimitations

The conceptual framework of this study relates to novelty value derived from infrastructural investment in world cup stadia. Therefore, conceptual theories that investigate and examine the economic, social, cultural and environmental impacts are excluded in this study**.** Consequently, variables that relate to job creation, tourist numbers, Gross Domestic Products (GDP), hospitality impact, environmental impact and hotel visits are excluded in this study. Literature review in this study focuses on novelty value framework and intangible benefits associated with infrastructural investment in world cup stadia. It follows therefore that literature that relates to tangible benefits associated with venue hosting and economic impact is excluded.

The research participants for phase one of the study which is qualitative in nature involves policy makers constituted by three spheres of government and the national sports controlling body as well as key stakeholders constituted by sport federations and associations as well as event organisers. The study excludes participants from cities and provinces that did not host world cup in 2010. Sport Federations that work outside of football world cup are also excluded from the study.

In the phase two of this study, population refers to patrons of Moses Mabhida Stadium located in Durban (N= 779780). The population size is arrived at by dividing the total number of stadium visitors over a five year period (**3 898 902)** by five to obtain the average annual number of N = 779 780. The total sample is n = 399. Moses Mabhida Stadium precinct has three other stadiums within a one kilometre radius which are Growthpoint Kings Park Rugby stadium, Athletics stadium and Sahara Kingsmead Cricket stadium. These stadiums were not constructed or renovated to host the world cup in 2010. Accordingly, patrons visiting these stadiums are excluded from the study population. The survey instrument is not distributed to events outside of Moses Mabhida Stadium and online distribution is also excluded.

1.6 Operational Definition of concepts and variables of the study

This study explores literature on novelty value of infrastructural investment in stadia. Literature suggests that there is little effort directed towards studies that investigate intangible benefits associated with infrastructural investment in stadia. The review of literature has managed to identify the key concepts and variables that define novelty value framework. The literature presents definitions, arguments and approaches taken by different scholars around concepts related to novelty value. These include: social cohesion, image, enhancement in national pride, national team's performance, prestige, nation building, spectator experience, stadium visits, spectator numbers, comfort, atmosphere, feel good factor, fan happiness, patriotism, enhanced international reputation, unity, civic pride, renewed community spirits, ambience and source of inspiration. Literature also provides insight on the stadium value attributes associated with infrastructural investment. These include: access, safety, directional signage, parking, Wi-Fi, hospitality, event duration, facilities for disabled, upkeep and maintenance, queues, safety, pitch view, concessioners, egress and cleanliness. The variables and dimensions that have emerged from literature and primary data inform the value index (V-index).

1.7 Structure of the Thesis

This study is structured into five chapters. Chapter one provides a synopsis of the entire thesis. The study rationale and motivation is briefly outlined. The chapter introduces the problem statement and the purpose of the study as well as how the thesis is structured.

The review of literature is discussed in chapter 2, providing the theoretical framework of the study. The literature presents definitions, arguments and approaches taken by different scholars around concepts related to novelty value. As well as arguments related to stadia attributes which contribute to holistic stadium experience. The variables and dimensions that have emerged from literature inform the value index.

The strategy, plan and study design as well as choices to be used in research methods is outlined in chapter 3. This chapter outlines all research design processes, data collection processes and sampling process. It provides population details and ethical issues around data access. Chapter 3 also provides interview protocol and explanation of analytical tool(s) that are used to analyse the data.

Chapter 4 presents the detail account of how data is analysed. The chapter is structured into two main parts that deal with qualitative data analysis and quantitative analysis. Part one

presents content analysis of each interview question based on identified themes from literature. Part two covers the SPSS outputs and descriptive statistics of the study sample (n=399), descriptive statistics of each item used to construct the value index, as well as factor analysis statistics. The last section deals with reliability statistics.

Chapter 5 reiterates the overall aim of the study. Briefly visits the study's theoretical framework and discusses the gaps in literature. This chapter provides description of study participants for both qualitative and quantitative parts of the research. The findings of the study are discussed addressing the two research questions and blending in theory. The chapter identifies literature that confirms, disputes or modifies study findings and provides insight into why data came out as it did. Chapter 5 also explains the contribution to knowledge based on study findings and outlines study implications in practice. This chapter concludes with study limitations and avenues for future research.

Chapter 2: Literature Review

2.1 Introduction

The study seeks to construct an index to quantify the novelty value of infrastructural investment on stadia. The point of departure in comparison to existing studies that look at the impact of stadia infrastructure investment is the focus on novelty value derived from infrastructural investment. This study adopts a novelty value framework as propounded by Allmers and Maennig (2009:509). Allmers and Maennig (2009) explain that in hosting the World Cup the long term benefits should not be limited to building the stadium. The focus should be on building novelty value (Allmers and Maennig 2009:509). Burton (2003:35) supports this approach, the author argues that it is difficult to justify investment on hosting events on a financial return without taking into account whether the communities around the infrastructure are better off having hosted a mega event.

While there are arguments in support in investing in mega events and the capability which exist in bringing about both social and economic opportunities, on the one hand, there are strong views advanced against such investments. A mega sporting event promises not just only excitement of the event and media exposure for the host country, it also creates the expectation of a positive and lasting return on the investment related to hosting (Allmers and Maennig 2008:01). There is adequate evidence in literature to suggest that there is value in hosting mega events such as the Football World Cup and Olympics. The impact of mega sporting events on host countries have been extensively studied (Humphrey and Fraser 2015:03). As cited in the works of Humphrey and Fraser (2015:03) different methods and models have been developed to measure the economic impacts of hosting mega events. Research in this subject mainly focuses on tangible benefits of infrastructure investment (Heisy 2009:02). Heisy (2009) argues that even though there are significant intangible benefits and effects of hosting, a majority of the research centres around the tangible economic benefit of hosting. Equally, Bohlmann and van Heerden (2005); Baade and Matheson (2004); Kim, Gursoy and Lee (2006); Barclay (2009); Gratton, Shibli and Coleman (2006); URS Finance and economics (2004); Coates and Humphreys (2003); Valente and Tur (2013); and de Aragao (2015) study the economic impact of mega sport events. Overall, the independent empirical research has found no evidence of economic benefits associated with mega sport events (Santo 2005:191). According to Humphrey and Fraser (2015:04) earlier studies concluded that benefits of hosting are not only just fiscal, but are also intangible.

The argument framed above builds a case for looking at novelty value of stadia investment from the perspective of intangible benefits. The purpose of this literature review is to identify the key concepts and variables that define the novelty value framework. The first part presents definitions, arguments and approaches taken by different scholars around issues related to novelty value. The second part looks into definitions, approaches and arguments related to stadia value attributes. This part is followed by a critical evaluation of variables that inform the index.

2.2 Theoretical framework: Novelty Value Framework

This section interrogates different definitions and arguments put forward to explain novelty value and also looks at novelty in different contexts. According to Pigliucci (2008:887) novelties have been broadly defined making the term meaningless and narrowly applicable to limited number of structures. Li and Croft (2004:02) claim that novelty is not clearly defined in literature. Gershman and Niv (2015:394) refer to novelty as a "puzzle", for the reason that it evokes drastically different reaction from poorly unknown factors, novelty is therefore puzzling. On the other hand Li and Croft (2004:01) define novelty as "answers to the potential questions" representing a user's quest for information. Bello and Etzel (1985) as cited in Lee and Crompton (1992:733) agree that novelty seeking has received somewhat modest consideration in literature.

Based on research, the definition of novelty is not the same (Zhang 2012:143). Zott, Amit and Massa (2010:15) define the concept of novelty as "Schumpeterian types of innovation'' This assertion is based on (Schumpeter 1934). Schumpeter's original innovation concept is broad enough to encompass services and manufacturing (Drejer 2004:551). It follows therefore that novelty is applicable in different contexts. In a natural science context "evolutionary novelty" is a term persistently used in evolutionary biology literature (Nitecki 1990 as cited in Pigliucci 2008:887). del Rio Olivares (2013:i) examines the value creation process in the context of e-business from a stakeholder perspective. del Rio Olivares (2013:68) suggests that both in short and long term e-business initiatives have an effect in the shareholder value of firms. Accordingly, Turban (2008:21) in a slightly different approach contends that in e-business, novelty creates value through innovative ways for structuring transactions, connecting partners and fostering new markets. Within the factory production context, Nieto and Santamaria (2005:24) reason that in a competitive manufacturing environment to achieve a higher degree of novelty in production; innovation, co-operative

strategy, continuity, type of partner and diversity are key factors. According to Carlile and Lakhani (2011:01) innovation needs sources of novelty, however the challenge is that not all sources lead to innovation, therefore, its value needs to be determined. Consequently, value determination emanates from existing knowledge, as such this frequently results to barriers to innovation. Carlile and Lakhani (2011:01) propose a general account of what drives the process of innovation. A novelty-confirmation-transformation (N-C-T) cycle is proposed. In this model, innovation is a cycle that needs capacity to develop novel courses of action and capability to confirm their value. This resulted in individual's determination of what knowledge to transform and what to keep in order to develop the next course of action.

Lee and Crompton (1992:733) explains that in the context of tourism, travel is motivated by the individual's desire for novelty, arousal or stimulation. Accordingly, people may want to travel because they want to experience something new, something unknown. Likewise, Zhang (2012:144) suggests that "novel item" should have three characteristics, namely; unknown, satisfactory and dissimilarity. While Zhang (2012:144) insists that novelty is used as one of the key metrics to measure customer satisfaction, Vargas and Castells (2011:01) propose a framework to provide a common ground for the development of metrics based on different perspectives on novelty and diversity. Consequently, identify three critical ground concepts as the core of novelty and diversity; choice, discovery and relevance. Vargas and Castells (2011:01) report a direct relationship between novelty and diversity as related concepts. Accordingly, novelty of piece of information generally refers to how different it is with respect to "what has been previously seen" by a specific user or community as whole. While diversity applies to a set of related items and how different they are to each other. Gonzalez (2011:06) confirms that novelty is associated with changes from prior experience. Therefore, stimulation to acquire new information and to gain additional knowledge is another reason why people look for novelty. Lee and Crompton (1992) as cited in Gonzalez (2011:06) define novelty as the difference of previous experiences and perceptions of the current situation which consequently is a comparison of something old with something new. Carlile and Lakhani (2011:05) reason that not everything new is of value and that not everything old is bad.

In the stadia context, Allmers and Maennig (2009:35) argue that newly renovated stadium structures incite a novelty effect: curiosity, increases in comfort, improved views, and a better atmosphere which may lead to significantly higher spectator numbers soon after the improvements. Coates and Humphrey's study (2003:01) confirm the existence of increased "novelty effect" on attendance in newly built stadia at professional sporting events. Liu (2013:02) claims that in the short term the hosting of a World Cup will not bring about

benefits however is beneficial in the long term. According to Feddersen and Maennig (2006:184) and Allmers and Maennig (2009:35) the novelty effect on new stadia, the feel good effect on citizens and the World Cup effect on international perceptions of a host country are the three factors that are considered to be beneficial long after the event has happened. To the contrary Coates and Humphery (2013:17) refute the assertion that novelty effect of new facilities last for a period of between three and eleven years and is equally distributed throughout the season and in all sports. Coates and Humphrey (2013:17) suggest that the novelty effect of new facilities differ across sports. On the other side Lui (2013:02) claims that the degree of novel effect for each host nation is different.

2.3 Stadium Experience

This section identifies various value attributes related to stadia which contribute to stadium experience. Wilhelm (2011:05) argues that the benefits of a novel stadium can be categorised into two: “economic development benefits” and “quality of life benefits”. The quality of life benefits comprise of civic pride, consumer surplus, and fan happiness while the economic development benefits consist of increase incomes, job creation and tax revenue increase. Gonzalez (2011:16) proposes a ‘holistic solution’ as a memorable stadium experience with benefits being satisfied and loyal fans.

According to (Gonzalez 2011:16) holistic solutions could assist to attract spectators and increase in revenue generated from the stadium. Accordingly, Veeraraghavan and Vaidyanathan (2012:49) suggest that there are several factors that influence the value experienced by spectators attending the event, such as seat location, event popularity and other customer related attributes. Whereas, Gonzalez (2011:45) recommends the use of sources of information such as big screens, appealing posters, handbook, attractive match programmes as well as utilising players in merchandise shops in enhancing stadium experience. On the other hand de Carvalho, Boen, and Scheerder (2010:03) identify comfort, accessibility, technological infrastructure, toilet conditions, parking conditions and cleanliness as some of the key value attributes related to stadia.

Gonzalez (2011:01) reasons that football stadia need to provide spectators with a memorable “stadium experience”. The author contends that services such as parking, security, food and beverages contribute to memorable stadium experience as something that appeals, gives good impression, and has a feel good effect. The UEFA Stadium Guide (2014:66) acknowledges that food and beverages concessions are not only an important

source of revenue but are also an equally vital part of match day stadium experience. Whisenant, Bolling and Martin (2013:01) confirm that novelty effect and team performance significantly influences per-capita spending on concessions.

2.3.1 Technological Solutions

With continuous technology advancement there exist opportunities for stadia to increase better stadium experience, state-of-art technological solutions provides opportunities for improved stadium experience (UEFA Stadium Guide 2011:30). The EUFA Stadium Guide proposes online shops from which fans can buy team merchandise, stadium restaurant reservation through website. On the other hand Twitter and Facebook provide scope for increased online commercialising, through Wi-Fi fans can receive a variety of information including match reports, at the same time big screens and LED displays can deliver visual messages to fans attending events in stadiums (UEFA Stadium Guide 2011:30). In the case of London 2012 Olympics (Leonhardt 2013:05) reports that the largest high-density wireless network in the world was built for the Games. The Games became the first ever to provide Wi-Fi at the Olympic Park for spectators. As a result over 500 000 hotspots created with 170 000 spectators everyday and 50% of them expected to use Wi-Fi through different enabled devices. In a similar but smaller scale, upon providing Wi-Fi connectivity, Amex stadium in one match saw over 13 000 devices connected concurrently with over 10 000 megabytes of data downloaded (Susiaho 2015:03). According to Leibovitz (2016:03*)* stadium Wi-Fi is not necessarily about technology, but about fan experience, failure to provide is costly. Likewise, Yates (2012:01) promote a concept of “Wi-Fi access for all” in stadiums and argue that future stadiums will have to deliver complete experience for fans with smart phones and tablets.

2.3.2 Public Transport Service

The UEFA Guide (2011:41) in advocating for a complete stadium experience for fans suggests a link between a well connected public transport service system and a properly configured access and egress scheme. According to Koehler (2012:15) stadiums with public transit accessible closer to the stadium have shown success. Accordingly, stadia in Australia responded to spectator public transport needs by employing travel demand management (TDM) measures (Burke 2009:03). TDM is a system aimed at influencing people to transit utilising public transport. Likewise, Zimmerman and Turner (2011:12) promote an integrated transport and ticketing system, a system where each ticket sold

includes access to public transport at no costs. According to Zimmerman and Turner (2011:11) the transit mobility benefits are not only limited to enhanced stadium experience but also provide value to users from price reduction.

2.3.3 Safety at stadiums

After suffering about three decades of problems emanating from supporter violence, old stadia and what was recognised as lack of safety management culture as well stadia disasters, different football controlling bodies introduced safety regulations related to safety in stadia. Such experiences resulted in stadium design and security plans placing huge emphasis on ensuring safety of spectators (UEFA Guide 2011; FIFA Safety Regulations 2008; Safety at Sports and Recreation Events Act of 2010). It follows that the better and safer are the facilities the more spectators are encouraged to watch football games. The work of Elliot and Smith (1993:205) on sports stadia disasters confirms that such tragedies are as a result of wider crisis management in football globally.

In responding to the tragedies, sport controlling bodies insist on mandatory "safe capacity" for spectators on event days. The safe capacity as defined by the UEFA Guide (2011:49) is the maximum capacity that allows for a full and safe evacuation of the stadium through dedicated access and egress within the time limits defined by local football bodies or regulations. The FIFA Safety Regulations (2008:06) dictates that the stadium maximum safe capacity must always be observed and complied with. Following the Ellis Park stadium soccer disaster in 2001, Ngoepe Commission (2002:81) concluded that the match organisers failed to use the big screen and public address system to communicate with fans during the disaster incident. The Commission Report further suggests that failure to use such technology resulted in breakdown in communication and made it difficult to control the crowed. For the same reason, UEFA Stadium Guide (2014:58) encourages stadiums to invest in high quality public address (PA) systems, not only to broadcast messages to spectators but PA systems are also an as essential part of security strategy in case of emergencies.

Ngoepe Commission (2002:112) takes a similar approach and recommends the use of public address system both inside and outside the stadium as well as the use of big screens to assist to keep the crowd in queues less anxious. In addressing safety in stadia, consideration needs to be given to disabled spectators, with an understanding that they have special needs (UEFA Guide 2011:62). The (UEFA Guide 2011:68) identifies various categories of disabilities which include people with limited mobility, hard of hearing and deaf

people, partially sighted and blind people as well as wheelchair users. The Inclusive and Accessible Stadia Report (2015:13) recommends that sports venues and clubs need to be aware that information provided for people with disabilities must take into account that there are different groups of disabled people. In response to providing a safe and accessible stadium, the Qualcomm Stadium developed an Accessibility Guide and Services for Guest with Disabilities. The guide seeks to ensure “equal access to all” while providing a “user friendly’’ facility.

2.3.4 Stadium Atmosphere and Comfort

The UEFA Stadium Guide (2011:48) observes the shift from previously packed stadiums including standing areas to all-seater venues. The shift is a consequent result of the recognition that spectators should enjoy watching in comfort. Melrose, Hampton and Manu (2011:2205) identify safety risks with standing spectators in seated areas as they may fall over a seat or may obstruct the access for emergency services. According to Melrose, Hampton and Manu (2011:2205) spectator standing is influenced by different factors such as; spectator comfort, moments of excitement, atmosphere of the crowd and fixture of the game. Edensor (2013:01) asserts that atmosphere is a critical element of match day experience. According to Edensor (2013:07) the atmosphere at football matches worldwide forms part of television production. This shift is what Paramio, Buraimo and Campos (2008:17) call ‘postmodern’ stadia. Such stadia is characterised by innovative designs and commercial developments. The other characteristic of postmodern stadia according to the authors is its reliance on extended operations throughout the year not just limited to match days. Compared to the ‘old’ stadiums, modern stadium designs place emphasis on comfort (UEFA Stadium Guide 2011:51). According to the same Guide the number of seats in a row impacts on spectator safety and comfort, therefore, the fewer the seats in a row, the greater the comfort. A good pitch visibility is recommended by UEFA Stadium Guide (2011:52) in designing stadiums, as such a sightline quality formula named C-value is used to calculate the pitch view.

$$C = \frac{D(N+R)}{D+T} - R$$

C = the C-value
D = the horizontal distance from each individual position to the point of focus (the edge of the pitch)
N = the riser height of each individual row of seats
R = the vertical height between the persons eye level and the point of focus (pitch Level)
T = the depth of each individual row of seats

The C-value is defined as a variable that defines the quality of the spectator's line of vision over the head of the person in front, known as the "sightline". The higher the C-value, the clearer the sightline and better the pitch view. Likewise, Veeraraghavan and Vaidyanathan (2012:49) developed a Seat Value Index for stadium/theatre which quantifies seat value perceived by customers in relation to seat location relative to stage or field. On the other hand Willsallen (2004:11) suggests that architectural acoustics contribute in supporting electrifying atmosphere in sporting stadia and therefore providing quality sound in stadiums is increasingly important. The UEFA Stadium Guide (2011:39) acknowledges that noise levels generated from events hosted in stadia can be of major concern and proposes that stadium design should aim to mitigate acoustic impact from such events. Similarly, stadium lighting can also have disturbing impact on the neighbourhood, the UEFA Stadium Guide (2011:39) suggests that measures to minimise "visual contamination" be considered in stadium designs.

2.4 Infrastructure Investment Value

This section first examines the pecuniary investment towards mega sport event hosting. Secondly, interrogates sport related socioeconomic infrastructure investment. Thirdly, investigates mega events as a catalyst for development and lastly assesses intangible benefits of hosting including associated legacies.

2.4.1 Pecuniary Investment in Mega Event Hosting.

As written in the works of Humphrey and Fraser (2015: 02) hosting an event like World Cup or Olympics needs huge amount of investment into facilities to host the games. Facilities like stadia have the potential to become architectural landmarks or may result in becoming 'white elephants'. According to Barclay (2015:67) the risk is very high particularly for developing countries that infrastructure for mega-events can turn into white elephants. Chappelet

(2012:81) supports the assertion that some facilities relating to mega events have become legacies that are costly to sustain, and are known as white elephants. Mc Grow-Hill Dictionary describes white elephant as something that is large and unwanted and is either a nuisance or expensive to keep up.

Host cities and countries invest heavily on infrastructure to host mega events. The South African government committed over $4 billion to major infrastructure investment programmes to enable the success of the 2010 FIFA World Cup (2010 FIFA World Cup County Report 2013:81). Accordingly, as cited in the same report Grant Thornton estimated that the 2010 FIFA World Cup was expected to contribute $8 billion to the South African economy, and generate 415,400 jobs which were to contribute $3 billion in tax income. Essex and Chalkly (2003:05) observe that as the number of sports and athletes increase in Olympic Games so is the magnitude of the urban investment needed to stage the games, equally, global interest in media and business associated with funding the games has grown. According to the PWC (2011:06) report, Brazil is likely to invest $83 billion in infrastructure from 2009 to 2016 in preparation for the FIFA World Cup in 2014 and the Rio Olympic Games in 2016. Likewise, China invested approximately $900 million between 2002 and 2006 in infrastructure in preparation for the hosting of Olympics (PWC 2011:05). By comparison Qatar is expected to spend $70 billion towards hosting the 2022 FIFA World Cup in upgrading infrastructure (PWC 20011:14). Durban 2022 Commonwealth Games hosting costs are estimated at about $0.5 billion with investment in infrastructure for the games expected to contribute to the lasting benefits of the host city. Consequently the total economic output of the Games is projected to be up to $3 billion, translating into an estimated $1.5 billion GDP growth (Bid Company 2014:02).

2.4.2 Sport Related Socio Economic Infrastructure Investment

As evidenced above mega events have been used to bring about both social and economic infrastructure investment opportunities. This assertion is supported by PWC (2011:06), accordingly, PWC reports that there are a whole host of social and economic benefits derived from investing in infrastructure. In addition, hosting also offers a wealth of opportunity to global investors seeking new markets. Baumann and Matheson (2013:19) however warn developing countries to shy away from using mega sporting events to promote economic development. Expanding on the same logic, KPMG (2016:01) recommends a rethink in the value received from infrastructure investments by governments, infrastructure investors and project owners as well as sponsors. The KPMG Report (2016:22) acknowledges that the demand for infrastructure is high irrespective of slow

economic growth and constrained fiscal budgets, even though very few governments are able to properly assess the actual economic value of their investments. The same report suggests that it so because existing infrastructure appraisal and prioritisation methodologies usually take a very narrow view of value. The 2010 World Economic Forum Report establishes that infrastructure is the foundation of a region's prosperity and resilience. Accordingly, underinvestment in infrastructure constitute economic risk for the entire global landscape. In 2014 the World Economic Forum released an infrastructure investment policy blueprint. The blueprint seeks to stipulate recommendations for governments on drawing private capital for infrastructure projects at the same time creating clear social and economic value for communities. There are three recommendations that the report suggests for governments and policy makers. (1) A strategic infrastructure vision that aggregates and prioritises a project pipeline that defines a viable role for private investors and sets out a communication strategy. (2) Critical policy and regulatory impediments to infrastructure investment should be addressed by governments. (3) Investor value proposition of each project must be clearly shown (World Economic Forum 2014:18). Notwithstanding the arguments that support the view that hosting mega events provide an opportunity for investment in infrastructure, the blueprint fails to identify the provision of stadia as an investment opportunity. Conversely, The City Factory (2010:20) concludes that major sports infrastructure is a huge benefit when it comes to remodelling the city, hence providing a unique opportunity to initiate huge urban renewal projects and also provide answers to the need for social cohesion. The "iconic" nature of the world cup stadia and its influence in the local community is seen as a benefit to the host nation (Lui 2013:02). According to Allmers and Meannig (2009:10) hosting mega events provide an opportunity for the creation of architectural legacy associated with what is known as "iconic" buildings. Allmers and Maennig (2009:10) acknowledge that albeit direct economic impact of hosting mega events, such events often fall short of what has been expected, however they do create an architectural legacy through ambitious stadium architecture, which has the potential to create a lasting external effects for the host city or country. In contrast, previously built facilities which were placed closer to interstate exchanges to fast track exit after the game, currently facilities are designed to be architectural symbols appealing to tourists (Santo 2005:176). While there is no consensus in the definition of iconic buildings, these have been cited as examples; Sydney Opera House, the Guggenheim Museum in Bilbao, the Centre Pompidou in Paris, the Munich Olympic Stadium, Moses Mabhida Stadium in Durban (du Plessis and Venter 2010:19; Allmers and Meannig 2009:10). du Plessis (2010:19) concurs that there is controversy over the definition and features of iconic buildings. Nonetheless, du Plessis (2010:19) lists two such common features, firstly, visually dramatic and memorable building

which creates a new image for the city. Secondly, must be associated with building positive image.

2.4.3 Mega Events as a catalyst for development.

Usually cities and regions bidding to host mega events have long standing strategic development plans they are looking at realising (Essex and Chalky 2003; Grix and Lee 2013; Baumann and Matheson 2013; Larissa 2010 and Chappelet 2012). According to (OECD 2010:47) hosting mega events provide host cities or regions the chance to accelerate the implementation and delivery of existing plans, providing deadlines and additional resources to speed up projects. Essex and Chalky (2003:09) suggest that host cities have used Olympic Games to trigger infrastructure improvements and identify three different types of games to demonstrate the degree to which cities have utilised the event. Firstly, depending on local circumstances, politically or otherwise, cities have tried to reduce the degree of transformation and funding on preparations for the event. Secondly, some games have contributed substantially in producing new facilities through infrastructural investments. Thirdly, games that inspire wider transformation in the host city's environment. According to Essex and Chalkly (2003:05) Olympic Games can potentially speedup change as opposed to initiating it. Accordingly, the games can potentially bring forward long-term plans which ordinarily may remain in the 'pending file' for later execution. Grix and Lee (2013:16) see hosting of sports-mega events as an international relations exercise by states in demonstrating their 'soft power' capabilities. Essex and Chalkly (2003:07) claim that several cities have used Olympics as a catalyst for urban development much more vigorously than others. According to Essex and Chalky (2003:09) Barcelona Olympic Games still remain the most successful ever. Hence still used as the model for cities aspiring to host transformational mega events. Essex and Chalkly (2003:09) acknowledge that good planning and design of legacy activities rooted in the aspirations of the host country or city may result to 'best legacy'. Hence, Barcelona is cited as a famous example of such a legacy. OECD (2010:15) acknowledges and recognises the Barcelona Olympics as a model for hosting events in a manner that secure wider benefits. Prior to hosting Olympics, Barcelona was overshadowed by other European cities such as Madrid, Rome, London and Paris. Consequently, 20 years after, Barcelona is the fourth most visited city in Europe. However, there is no evidence of this being repeated in most Olympic host cities (Baumann and Matheson 2013:21).

The case of Barcelona represents an example of how a city can redefine itself within a generation. Barcelona was subjected to a range of established indexes to examine the

impact of the games. Indexes like Anholt-GfK Roper, City Brands Index, European Cities Monitor and Mercer Global Quality of Life Index. Consequently, City of Barcelona is one of the most improved cities in Europe due to profound legacies associated with hosting Olympic Games in 1992. Today Barcelona is transformed from a deteriorating city to a modern and thriving hub (OECD 2010:47). There are several examples where mega events were utilised as a catalyst for city or regional regeneration. London 2012 Olympic Games were anticipated not only to be a success from sport delivery, but to also help to regenerate the city's most socio-economically challenged area (OECD Report 2010:11). According to the post games evaluation report of the Department for Culture, Media and Sport 2014 on the London 2012 Olympics Games, the primary objectives of delivering the "most sustainable games ever'' was met. This assertion is supported by the Commission for Sustainable London 2012 (CSL) which presented assurance on sustainability of the games and declared them the "most sustainable games ever" (Department for Culture, Media and Sport (United Kingdom) (2014:20). According to the same report there is enough evidence to suggest that sustainable practices stimulated by London 2012 will ultimately overshadow the predictable negative impacts of the games. Similarly, the Green Games Programme constituted part of the FIFA World Cup in Germany and produced substantial environmental improvements. while the restoration of ancient sites and buildings were brought about through Athens Olympic Games in 2004, likewise, Commonwealth Games in Manchester in 2002 helped to revitalise several poor neighbourhoods and extended access to employment for marginalised people (OECD Report 2010:14). The 2011 PWC report confirms that over and above sport related infrastructure, China doubled Beijing's capacity of subway systems and contracted a new airport owing to hosting Olympics in 2008. Likewise, 2000 Sydney Olympics facilitated the upgrade of the airport at a cost estimated at $1.5 billion and helped to double the capacity to accommodate passengers and also added a new rail link (PWC 2011:11). In Atlanta, the village that housed 1996 Olympic athletes now houses 10 000 university students (PWC 2011:11).

2.4.4 Intangible Benefits of Hosting

A mega sporting event like a World Cup or Olympics may be hard to measure and can be associated with effects that often go under the title of intangible outcomes (Allmers and Maennig (2009:510). As stated above much academic effort has been invested in the development of methods and models to measure the economic impacts of mega events. Accordingly, intangible benefits should form part of an essential component if not the key part of the benefit associated with hosting the mega events. Heisy (2009:06) emphasises the point that most of the available literature has focused almost exclusively on assessing the

tangible benefits of hosting mega events, either as an ex-ante economic estimates or ex-post examinations which normally discover modest tangible benefits. Heisy (2009:06) further argues that the intangible benefits of hosting are often acknowledged in these studies, and by and large are written off as too difficult to measure. Heisy (2009:06) claims that for a number of years intangible benefits in the field of environmental economics have been estimated through various methods. The author suggests that such methods be employed by sport economists in estimating the intangible benefits associated with sports. Developing countries are looking for answers in whether or not the huge investments in infrastructure projects are valuable or can be better utilised in areas of social needs. Consequently, the question whether mega sporting events leave any legacy that benefit the host country still remain unanswered (Sieverdingbeck 2014:02).

2.4.5 Games Legacies

Chappelet (2012:84) refers to intangible benefits of hosting mega sporting events as "social Legacies". Chappelet (2012:77) further argues that the concept of the legacy of sporting events emerged in the 1990s when the non economic benefits of hosting were questioned. In identifying tangible and intangible legacies of hosting, Chappelet (2012:78) differentiates between "territorial and personal legacies. Some legacies are associated with the hosting and organising territory while others belong to those who have experienced the event (Chappelet 2012:78). In bidding for the 2022 Commonwealth Games, the City of Durban's legacy strategy is two-fold; non–sport legacy initiatives and sport–specific legacy initiatives. The focus of the non-sport related legacies is mainly in improving infrastructure around transport and human settlements. On the other hand, sport-specific related initiatives are directed at active youth participation and building a "Social Facilities Accessibility Model" where sport facilities are build alongside other social facilities like libraries and clinics (Durban 2022 Candidate City File 2015:09). To the contrary, Coalter, Allison and Taylor (2000:02) claim that there isn't much study on the possible regenerative investment in sport and sports-led investment strategies do not necessarily yield long term benefits for neighbourhoods. Along the same lines, Essex and Chalky (2003:13) argue that municipal investment can be diverted from social services and education in order to fund infrastructure associated with hosting Olympics.

According to Essex and Chalkley (2003:05) public relations officers and organising committees may exaggerate positive post Games impacts and legacies accrued from Olympics, consequently downplay any negative consequences. Gratton, Shibli and Coleman (2006: 57) reason that the evaluation of events evolves and should continue to evolve for the

better understanding of possible legacies in event hosting. Valente and Tur (2014:106) acknowledge that world cup is a short term event. Therefore, not all of its impact is permanent, for that reason, effects depend on the ability of the host country to use the opportunities and legacies of the event. du Plessis and Venter (2010:20) claim that international visitors attending the world cup in South Africa enjoyed greatly, even though such a benefit is hard to measure in financial terms. On the contrary, Heisy (2009:181) calculates the estimated intangible benefits in monetary value for potentially hosting of 2016 Olympic Games for three candidate cities, the values come to more or less $5 billion for Chicago, about $3 billion for San Francisco, and more than $1 billion for Berlin. Recently, UK has favoured a shift in urban policy towards utilising sport as a tool for regenerating deteriorating neighbourhoods (Larissa 2010:2). In the case of Manchester, Chappelet (2012:78) confirms that the city rose from 19th to 13th position in the European Cities Monitor after having organised the 2002 Commonwealth Games, which constitutes a legacy that is both territorial and intangible. On the one hand, Ministry of Sports of Azerbaijan (2015:04) identifies two conventional approaches to legacy, “hard’” and “soft”, or “tangible” and intangible” legacies. According to the Ministry of Sports of Azerbaijan (2015:04) ‘soft’ legacies refer to ‘human capital’ legacies of skills and knowledge starting from basic training of volunteers to highly specialised management proficiencies. The author argues that such legacies are somewhat ignored. In addition the terms "Legacy", "Impact", and "Benefit Capture" are all utilised to explain benefits associated with hosting mega sporting events (OECD 2010:15). Chappelet (2012:76) argues that sporting events legacy can be seen from different angles. Accordingly, the author lists different perspectives within which the sport event legacies can be seen. These include; tangible or intangible, global or local, territorial or personal, short-term or long-term, positive or negative, intentional or unintentional, sport or non-sport related, and can also be seen from the various event stakeholders’ perspectives.

Florek and Breitbarth (2008:80) argue that very little is known about the ‘soft’ benefits of mega sports events, including image enhancement. Matos (2006) as cited in (Florek 2009:24) lists thirteen (13) main areas of hosting influence; infrastructure, institutional setup, tourism and international marketing, financial outcome, urban structure, environmental impacts, technological development, political capital, social structure, human capital, cultural and psychological changes and intangibles. By comparison PWC (2011:08) declares seven (7) priorities that ensure a lasting legacy. (1) The region’s long term plan for growth works better in *supporting infrastructure*. Example is Barcelona, a 50 year development plan was in place prior to hosting Olympic Games. (2) *Urban regeneration* presents long term benefits, for instance Wentworth Point in Sydney used to be a munitions dump and was transformed into a thriving residential neighbourhood during the 2000 Sydney Olympic Games. (3) A

holistic approach can assist to translate vision to reality, application of project management philosophy can help to ensure successful completion of large-scale infrastructure projects. (4) Stadia *legacy planning* is critical, for example post 2022 FIFA World Cup, Qatar is planning to dismantle some modular venues and donate them to developing nations. (5) *Public-private partnerships* afford host cities an opportunity for additional funding and specialised expertise, for example M25 motorway expansion in London developed as part of legacy for London 2012 Olympic Games. (6) *Inter-governmental collaboration* is essential to mega-event infrastructure planning and investment, for example all three government spheres in South Africa financially contributed to hosting the 2010 FIFA World Cup (7). *Public sector commitments* to long term partnerships is equally critical.

2.5 Value Index Dimensions/Variables

This section identifies variables from literature that informs novelty value index. Atkinson and Mourato's (2008:13) study came up with a set of noneconomic benefits for hosting mega events. The authors point out that national pride, improved awareness of disability; source of inspiration for children; legacy of sports for the future; enhanced international reputation and renewed community spirit are of great worth to a country on a path to building its tourism economy. According to Baade and Dye (1988:37) measurable economic benefits to local citizens are not so big to a point where they can justify funding, the discussions must revolve around the immeasurable intangible benefits like civic pride and fan identification.

On the contrary, Johnson (2011:39) suggests that the intangible core benefits such as prestige and pride derived from having a professional team do not necessarily provide justification for the use of public funds. Johnson (2011:18) further argues that civic pride achievements accrued from "externality" are very difficult to measure. Expanding on the same argument, Allmers and Maennig (2009:510) suggest that the benefits of investing in mega events should take a long-term view and not only be attributed to the need to host a mega event. Accordingly, attention should be somewhat on building novelty value. This assertion is supported by Heisy (2009:05). The author argues that intangible benefits accrued by communities from hosting a global festival include pride, unity and celebration. Heisy (2009:06) further suggests other intangible benefits that may be essential for host cities. These may include building the city's brand through an improved image of the city as a tourist destination or global centre of commerce, increased motivation for residents to become active in athletic pursuits thus reducing healthcare costs, increased awareness and understanding of other cultures and of the issues regarding people with disabilities and the value of adaptive sport. Along the same logic, Lee, Cornwell and Babiak (2012: 97) mention

social cohesion and national pride as critical novelty values derived from mega event investment. Alllmer and Maennig (2009:509) suggest that novelty value is a combination of comfort, number of visits to the stadia subsequent to the world cup, spectator numbers, image effect and feel good effect. Shanaron (2014:22) takes a slightly different view. Shanaron (2014:22) admits that it is not possible to measure the impact of mega sport events correctly irrespective of the significant role they play. The author argues that researchers are uncomfortable with negative impacts, more so if they are residents of host countries.

According to Avraham (2014:70) the reason to host the event is motivated by the values that marketers wish the destination to evoke. There are numerous important rewards for host destinations: guests and visitors who wouldn't ordinarily visit the destination attend the event; key opinion makers like academics, celebrities and journalists who later are likely to communicate through various platforms about the event; locals are encouraged to take pride of their destination and recommit to its image; sports and culture facilities; new attractions; economic movement and social cohesion are all driven by event hosting - the destination's future success and awareness is created through an event (Avraham 2014:63). Hosting "spotlight events" is one of the strategies adopted by destination marketers to restore and improve the public image of destinations experiencing immediate or prolonged crisis (Avraham 2014:61).

According to Pirsl and Lukac-Zoranic (2012:97) the understanding that elite sports events and national accomplishment promote social cohesion, national pride and international prestige constitute the main drivers for host cities to have the appetite to host sports events. While sport has a strong intimacy associated with national pride and the ability to transcend deep divisions in fragmented communities, however, it also has the capacity to expose underlying divisions and further polarise the same communities (Luiz and Fadal 2010). This assertion is supported by de Argoa (2015:14). de Argoa (2015:14) observes that leading to the 2016 World Cup in Brazil the country experienced riots and strikes emanating from criticism around contrast between mega event spending and social services with some protests leading to violence and confrontation with the police. In the case of South Africa, de Argoa (2015:14) asserts that a country that experienced apartheid for many years, hosting a Football World Cup can potentially be beneficial in promoting national unity and pride.

According to Johnson (2011:21) civil pride and prestige as examples of indirect benefits of hosting mega events can unite a once divided city or country as they offer common interest.

Danny Jordaan, the South African World Cup 2010 Organising Committee Chief Executive Officer as quoted in Allmers and Maennig (2009:35).

> *''The World Cup is about nation building, it's about infrastructure improvement, it's about country branding, it's about repositioning, it's about improving the image of our country, and it's about tourism promotion. It's also about return on investment, job creation and legacy''.*

The 2010 Country Report (2013:84) confirms this very assertion and identifies image of the country, social cohesion, nation building, patriotism, national pride and confidence as key dimensions that constituted social impact of the 2010 FIFA World Cup in South Africa. In August 2010 FIFA commissioned a post event study of both South African residents and international fans. Consequently, the following impact of the World Cup is recorded: 91% believe that the event united people of South Africa, while 94% believe the World Cup will strengthen tourism. 96% indicate that they will visit SA again while 92% will recommend South Africa to friends and relatives (Country Report 2013:83). Accordingly, Knott, Swart and Visser (2015:12) report a very high level of expectation of social benefits by respondents before and after the 2010 FIFA World Cup. Conversely, Kosmaczwska (2013:17) rejects that the successful organisation of the mega event leads to visitors' revisiting the host country. Similarly, the 2006 World Cup in Germany was utilised to rebrand the national image and identity of the country (Battersby 2006:01). Anholt (2006) agrees that with respect to the FIFA World Cup in Germany a deliberate effort was put in intangible side of the event in order to achieve a relatively balanced national image, with an intention to address the country's controversial past and demonstrate softer attributes such as being warm and welcoming. On the other hand, Van der Merwe (2007:72) argues that the 1995 Rugby World Cup provided a decisive nation-building moment and helped South Africa to stimulate the nation and positively impacted the "fragile political order''. Likewise, Knott, Swart and Visser (2015:01) agree that the impact of the 1995 Rugby World Cup in South Africa confirmed that sport mega-events can stimulate positive quality features such as social cohesion and nation-building. Accordingly, there is generally accepted view in literature that civil pride and social cohesion is created through hosting mega sports events (Groothuis and Rotthoff 2014:19; Coalter, Allison and Taylor 2007:77; Avraham 2014:70; Evens and Kelly 2002:303; Florek and Breitbarth 2008:80). Groothuis and Rotthoff (2014:19) define civil pride as intangible benefits which include comfort from watching local game on television, reading about it in the newspaper, discussing it with friends and work colleagues or the pride engendered from being in a major league city.

According to Badde and Matheson (2004:350) and Florek (2009:24) there are a whole host of broadly published benefits that can be achieved from hosting mega sports events. Accordingly cities strongly contend to host such events to enhance their image. Graziella's (2015:238) study of the impact of the "Giro d'Italia 2013'' on Naples' image suggests that the image of Naples as a tourist destination improved after hosting, but the structural and social problems of the city remained. Accordingly, Graziella (2015:241) suggests that after hosting an event, destination image may play an important role in the way the hosting city's image is shaped in the customers' minds. Lee, Taylor, Lee and Lee's (2005:43) study of destination image of foreign visitors who visited 2002 FIFA World co-hosted by Korea and Japan suggests that visitors who were not in the country for World Cup related reasons did show changes in their perceptions of Korea compared to those who travelled specifically for the World Cup. Accordingly, visitors expressed willingness to recommend South Korea to others. In hosting a world a World Cup the country enjoys intangible effect from huge international exposure (Lui 2013:03; Baumann and Matheson 2013:19). International image is not only limited to stadia or host cities, can be enjoyed countrywide, particularly business with spectacular images broadcast globally (du Plessis and Venter 2010:19). The key rational for a country to host a mega sporting event is the expected global media attention, for the reason that tourism potential will be exploited (Demir, Elioz, Cebi and Yamak 2015:811). According to Lui (2013:03) the benefit of the enhanced positive perception is not only restricted to infrastructure investment, but the tourism industry also benefits. Demir, Elioz, Cebi and Yamak (2015:816) contest this assertion and argue that in the context of Olympics the games have become a sports spectator event rather than sports travel event. Likewise, Fourie and Santana Gallego (2010:12) while acknowledging the benefits of hosting mega events from the tourism perspective, argue that it is not necessarily the biggest event that yields most benefits.

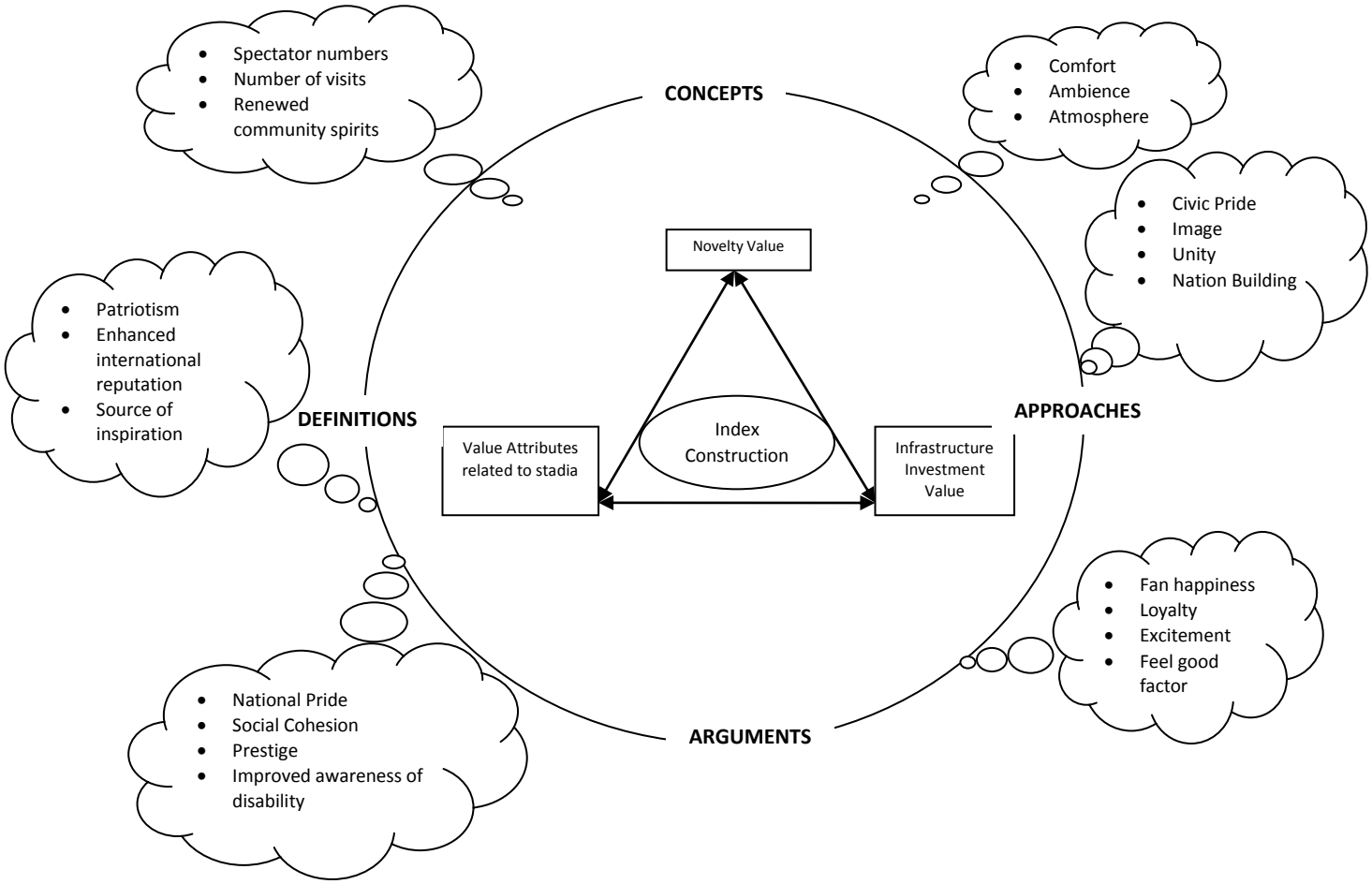


Figure 1 depicts two layers of theory building blocks. The first inner layer illustrated in the form of a triangle consists of the concepts that the novelty value index is framed against. The second layer depicts the variables that define the concepts in the first layer.

2.6 Conclusion

This chapter concludes that there is scholarly consensus in literature that studies in novelty value of infrastructure investment in stadia are largely biased towards economic impact. Consequently, little effort is directed towards studies that investigate benefits associated with stadia investment. The review of literature has managed to identify the key concepts and variables that define novelty value framework. Variables and dimensions identified from literature are clearly illustrated in figure 1 above. The literature presents definitions, arguments and approaches taken by different scholars around concepts related to novelty value. Included are definitions and arguments related to stadia attributes which contribute to holistic stadium experience. The variables and dimensions that have emerged from literature inform the value index.

3. Research Methodology

3.1 Introduction

According to Crotty (1998:03) methodology is a “strategy, plan of action, process or design’’ lying behind the choice and use of particular research methods. As discussed in the literature review section above, there are different views amongst scholars pertaining to the concept of novelty value derived from investing in world cup stadia. Not only is there a lack of conceptual clarity on what constitutes novelty value, there is neither a mechanism to measure novelty value, nor a tool to track the value of stadia investment over a period of time. To fill this gap in knowledge, this study is framed around two main objectives:

1. To determine the conceptual definition of novelty value using literature as well as primary data from policymakers, mega sport event officials, and world cup stadia stakeholders.

2. To determine the drivers of novelty value derived from stadia infrastructure investment. The study therefore, seeks to provide a scientific valid index (V-index) to measure novelty value derived from stadia infrastructural investment.

3.2 Research Design and Approach

This study adopted a mixed method research approach.

3.2.1 Design (mixed method)

There are three approaches in conducting research: (1) the qualitative approach; (2) the quantitative approach; and (3) the mixed method approach that uses both qualitative and quantitative methods (Driscoll, Appiah-Yeboah, Salib and Rubert 2007:19; De Lisle 2011:88; and Bahari 2010:19). According to Hanson *et al (*2005:233) a mixed method research design is a process used to collect, analyse and “mix” both quantitative and qualitative research methods in a single study to understand a research problem. Creswell (2008:267) insists that for one to effectively utilise this method, understanding of both methods is critical. Miles and Huberman (1994:27) identify several advantages for using a mixed method approach. Firstly, qualitative research is conducted through contact with life situations that are reflective of the everyday life of individuals, groups, societies, and organisations. In addition Miles and Huberman (1994:27) suggest that mixed methods are also used for the following:

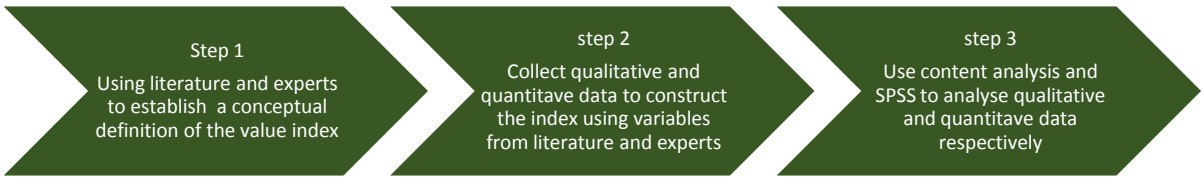
- When one type of research (qualitative or quantitative) is not enough to address the research problem or answer the research questions.
- To incorporate a qualitative component into an otherwise quantitative study.
- To build from one phase of a study to another.

In adopting a mixed approach, this study collected qualitative data in the first phase of the study from 15 policy makers and key informants that are involved in decisions related to world cup stadia investment. Policy makers interviewed included National Department of Sport and Recreation, Provincial Governments with World Cup Stadia, Metropolitan Municipalities with World Cup Stadia and South African Confederation and Olympics Committee (SASCOC). The key stakeholders included South African Football Association (SAFA), Professional Football Association (PSL), National 2010 Stadia Forum, Football Fans Association, Stadia Business partners and event organisers hosting events in world cup stadia. Qualitative data collected was used to develop a questionnaire that was used to collect quantitative data. The rationale behind this approach is that the process of index construction requires qualitative data to be collected and analysed in order to inform the index construction in the second phase of the study.

3.2.2 Research approach – Index Construction.

The index construction process as depicted in Figure 2 below started with the process of identifying items that define the concept from literature. That was followed by interviews of key informants who have expert knowledge around infrastructure investment. The purpose of engaging experts is to tap into their insights and inform the process of building a robust value index. The dimensions/ variables identified from literature include comfort, ambience, national pride, image effects, social cohesion, spectator numbers and number of visits to the stadium. Qualitative data collected from phase 1 was added to the items identified from literature. Driscoll, Appia-Yeboah and Rubert (200:21) state that sequential designs involve collecting data in an iterative process where data collected first can use statistical methods to determine which findings to augment in the next phase. In this study sequential mixed data collection strategies were adopted. The qualitative data collected in phase 1 informed the quantitative data in phase 2. Content analysis technique was used to analyse qualitative data while factor analysis, an analytical tool in the Statistical Package Version 20 SPSS was used to analyse quantitative data.

Figure 2: Research design approach/process



3.3 Sampling Issues

As mentioned in the foregoing section this study has two phases. Sampling issues for each phase are discussed in turn.

Kemper *et al*. (2003) as cited in Palinikas, Horwitz, Green, Wisdom, Duan and Hoagwood (2013:544) identify seven general principles that govern all forms of sampling, either quantitative or qualitative. (1) The sampling plan and strategy should be a logical result from the conceptual framework and research questions being addressed by the study. (2) The sample should be able to generate a thorough database on the type of phenomenon under study. (3) The sample should at least allow the possibility of drawing clear inferences and credible explanations from the data. (4) The sampling strategy must be ethical. (5) The sampling plan should be feasible. (6) The sampling plan should allow the researcher to transfer/generalise the conclusions of the study to other settings or populations. (7) The sampling scheme should be as efficient as practical.

3.3.1 Sampling Issues: Phase 1 (Qualitative study)

Purposive sampling was identified as the most appropriate method of selecting study participants for the first phase of research which is qualitative in nature. Tongco (2007:147) refers to purposive sampling as an informant selection tool. According to Palys (2008:697) there are different lenses through which purposive sampling can be approached. Palys (2008:697) asserts that sampling is context dependent. Therefore, there are endless strategies that can be adopted. Examples include: stakeholder sampling, extreme sampling, typical case sampling, paradigmatic case sampling, maximum sampling, criterion sampling, theory grounded sampling, critical case sampling, negative case sampling and sequential sampling. There is consensus in literature that purposive sampling can provide reliable and robust data despite its inherent bias, ironically its strength lies in its intentional bias (Tongco 2007:154). The advantage of utilising purposive sampling for this particular study relates to

the criticality in ensuring that the experts are knowledgeable in the field of study. Purposive sampling was used to select 15 study participants, as illustrated in Table 1 below which constitute a sample size for phase 1.

Table 1: A classification of research participants for the phase 1 process: 1) Policy makers constituted by three spheres of government and the national sports controlling body; 2) Key stakeholders constituted by sport federations and associations as well as event organisers.

	Key Informant category	**Estimated sample size**
Policy Makers	Sport and Recreation South Africa (SRSA)	1
	Provincial Governments (with 2010 stadia)	2
	Metropolitan Municipalities (with 2010 stadia)	2
	South African Sport Confederation and Olympics Committee	1
Key stakeholders	South African Football Association (SAFA)	2
	Professional Football Association (PSL)	1
	National 2010 Stadia Forum	1
	Football Fans Association	2
	Stadia Business partners	1
	Event Organisers (hosting events in 2010 stadia)	2
Total		15

3.3.2 Sampling Issues Phase 2 (quantitative study)

Sample selection in this phase involved non probability sampling technique, and specifically convenience sampling technique. Convenience sampling is appropriate when participants or population units are selected based on availability. While acknowledging that convenience sampling may have some limitations, Etikan, Musa and Alkassim (2016:02) admit that in most cases it is not possible to include every subject due to population size. In this study population refers to patrons of Moses Mabhida Stadium located in Durban (N= 779780). The population size was arrived at by dividing the total number of stadium visitors over a five year period (**3 898 902)** by five to obtain the average annual number of N = 779 780. The total sample was n = 399.

Table 2: Moses Mabhida Stadium Event Stats Source; 2015/2016 and 2016/2017 eThekwini Municipality Integrated Development Plan (IDP)

Category	Total Pax Entertained (2010-2015)
Non-bowl	238 750
Bowl	2 809 861
People's Park	800 291
Total Five Years	**3 898 902**
N (Population for this study	**779780**, annual average arrived at by dividing the total number of stadium visitors **(3 898 902)** by five over a five year period

The sample for phase 2 of this study is selected using Krejcie and Morgan (1970)'s formula: $n = N/ \{1+N (e^2)\}$ Where:

n = the desired sample size

N = the population

e = acceptable margin error limit (0.05 on the basis of 95% confidence level)

$n = 779780/\{1+779780 (0.05^2)\}$

= 399

3.4 Data Collection

As indicated above this study adopts a mixed method approach.

Data Collection Phase 1 (Qualitative approach)

Data collection in this research was motivated by Miles and Huberman (1994:27). Miles and Huberman posit that qualitative data collection does not require a large sample size. Researchers are encouraged to have a sample size that justifies data saturation. As illustrated above 15 participants were identified to be interviewed.

The recruitment process started with securing buy-in using the gatekeeper's letter captured in Annexure 1. Participants were e-mailed to secure participation. All participants were

assured of anonymity of their responses and confidentiality of the information they provided. Identities of the participants were not recorded to ensure confidentiality. An option to terminate the interview in the event participants were uncomfortable was granted.

The sampled participants for phase 1 were contacted via email and telephone to arrange for the interview dates. Eleven face to face and four telephonic interviews were conducted. The location of participants determined whether to use face to face or telephonic interviews. The 4 participants who were telephonically interviewed were all out of the Province where the researcher is based. Each interview took about 30–45 minutes.

The interviews were recorded electronically with the use of a digital recorder and cell phone recording as a back-up plan. After interviews were conducted there was no need for further interviews as there were no new ideas emerging. The measuring instrument for phase 1 in table 3 below presents the themes related to novelty value identified from literature.

Table 3: Variables/dimensions and items from literature

Dimensions	Items	Item Source (Reference)
1. Ambience	What are your views about the comfort and ambience of Moses Mabhida Stadium	Adapted from Allmers and Maennig (2009)
2. Social Cohesion	What is your opinion about the capability of a stadium to contribute to social cohesion?	Adapted from Lee, Cornwell and Babiak (2012
3. Image	How much has the infrastructure investment of a stadium contributed to the image of the host city?	Adapted from Allmers and Maenning (2009)
4. National Pride	What of significance is infrastructure to national pride	Adapted from Atkinson and Mourato (2008)
5. Spectator numbers	How are spectator numbers contributing to the value of the asset	Adapted from Allmers and Maennig (2009)
6. Number of visits in the stadium	How does stadia impact on the number of visits	Adapted from Allmers and Maennig (2009)

3.5 Data Collection Phase 2 (Quantitative)

The survey instrument attached as Annexure 2 had two sections (1) demographic details of the participants (2) thirty three (questions) that capture novelty value. The 33 questions were measured in a five-point Likert, with”1” indicating strongly disagree; and “5” strongly agree.

Table 4: Dimensions and items used in the survey instrument

Dimensions	Items	Item Source
Ambience	1. The vibrant of the stadium is what attracts guests. 2. I am satisfied with the ambience and atmosphere of the stadium.	Adapted from: - Allmers and Maennig (2009) - Feddersen and Maennig (2006)
Comfort	1. Physical comfort is not really important to me when I go to a stadium. 2. Safety contributes to the feeling of comfort when attending event at the World Cup stadium.	Adapted - de Carvalho, Boen, and Scheerder (2010)
Social Cohesion	1. Being at the stadium invokes a positive sense of belonging. 2. Attending an event at the World Cup stadium gives me an opportunity to enjoy the beauty of my country. 3. Attending an event at the World Cup stadium make me feel proud to be a South African.	Adapted from: - Lee and Crompton, Cornwell and Babiak (2012) - Pirsl and Lukac-Zoranic (2012) - Knott, Swart and Visser (2015)
Image	1. The iconic nature of the stadium contributes to the image of the World Cup stadium. 2. Frequency of events at the World Cup stadium contributes to the image effect. 3. Access to free Wi-Fi at the stadium offer positive stadium.	Adapted from: - Heisy (2009) - Allmers and Maennig (2009)
National Pride	1. Aesthetic view of the World Cup stadium contributes to national pride. 2. Geographic location of the stadium is critical to nation pride. 3. The size of the World Cup stadium enhances national pride.	Adapted from: - Atkinson and Mourato (2008) - Baade and Dye (1988) - Heisy (2009) - Johnson Pirsl and Zoranic (2012)
Visit to the stadium	1. Multipurpose nature of the World Cup stadium contributes to stadium visits. 2. Access to the public transport is key to visiting the World Cup stadium. 3. Spending time in the World Cup stadium bring about excitement.	Adapted from: - Allmers and Maennig (2009) - Veeraraghavan and Vaidyanathan (2012) - Coates and Humphrey study (2003)

Spectator numbers	1. Hospitality capability has a positive effect to the spectator numbers in the stadium. 2. Duration of the event has an impact on spectator numbers. 3. The image of the stadium increase spectator numbers. 4. I always arrange to meet up with friends at the World Cup stadium. 5. Events with famous international personalities are sure to bring me to the World Cup stadium.	Adapted from: - Allmers and Maennig (2009) - Gonzalez (2011) - Demir, Elioz, Cebi and Yamak (2015)
Nation building	1. Social interaction in the World Cup stadium promotes nation building. 2. The iconic landmark nature of a World Cup stadium contributes to nation building. 3. The commanding view and character of the World Cup stadium brings about dignity, humanity and sense of belonging.	Based on: - Comments and suggestions solicited from d experts
Spectator experience	1. Cleanliness has appositive effect to spectator experience in the stadium. 2. Duration of the event has an impact on spectator experience in the stadium. 3. Upkeep and maintenance is not important in the World Cup stadium. 4. I don't mind to stand in the long queues when attending an event in the World Cup stadium. 5. Facilities for disabled spectators are not really important to me when I visit the World Cup stadium. 6. A clear pitch view is essential in a World Cup stadium. 7. Directional signage (way-finding) is not important in a World Cup stadium. 8. I expect food and beverages to be sold at the World Cup stadium. 9. Parking is key when attending an event or visiting a Word Cup stadium.	Based on: - Comments and suggestions solicited from d experts

The survey instrument (n = 399) was distributed during events and stadium attractions in March and April 2017 with the assistance of Guest Relations Officers (GRO's) and Event Coordinators at Moses Mabhida Stadium.

3.6 Data Analyses

3.6.1 Analysis of qualitative data

Qualitative data was analysed using the Content Analysis Technique. According to Barelson (1952) as cited in Franzosi (2009:548) content analysis is defined as a research technique for the objective, systematic and quantitative description of the manifest content of communication.

3.6.2 Factor analysis

Factor analysis, an analytical tool in the Statistical Package Version 20 SPSS was used to analyse quantitative data. As explained by Hair, Anderson, Tatham and Black (1998:225) factor analysis is a quantitative analytical tool that considers the total variance of items captured from respondents and then derives factors that contain small proportions of unique variance. Factor analysis generates the factor structure in a way that assists decision makers or policy makers with information regarding the most important indicators of each factor or variable (Hair, Anderson, Tatham and Black 1998:225). The purpose of factor analysis in the main is to sum up data so that patterns and relationships can be easily read and understood. It is mainly used to regroup variables into a limited set of clusters based on shared variance. It therefore helps to isolate constructs and concepts (Yong and Pearce 2013:79).

Msweli (2017:01) cites the following as goals of factor analysis. 1) To help an investigator determine the number of latent constructs underlying a set of items (variables). 2) To provide a means of explaining variation among variables (items) using a few newly created variables (factors), for example, condensing information. 3) To define the content or meaning of factors, for example, latent constructs.

Factor analysis has two main components, namely Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA). According to Msweli (2017:01 and 05) the primary objectives of EFA are firstly to determine the number of common factors influencing a set of measures, secondly to determine the strength of the relationship between each factor and each observed measure. On the other hand CFA's primary objective is to determine the ability of a predefined factor model to fit an observed set of data. There are similarities and differences between CFA and EFA. Some of the similarities are that both techniques are

based on linear statistical models and assume a normal distribution and also incorporate measured variables and latent constructs. Similarly, statistical tests associated with both methods are valid if certain assumptions are met.

The differences between the two methods are that CFA requires specification of the number of factors and a priori model supported by theory and items loaded on each factor. While on the other hand, some of the assumptions underlying EFA include; random sampling, ratio level of measurement, relationship between observed variables is linear, multivariate normality, normal distribution for each observed variable and a bivariate normal distribution for each pair of observed variables (Msweli 2017:01).

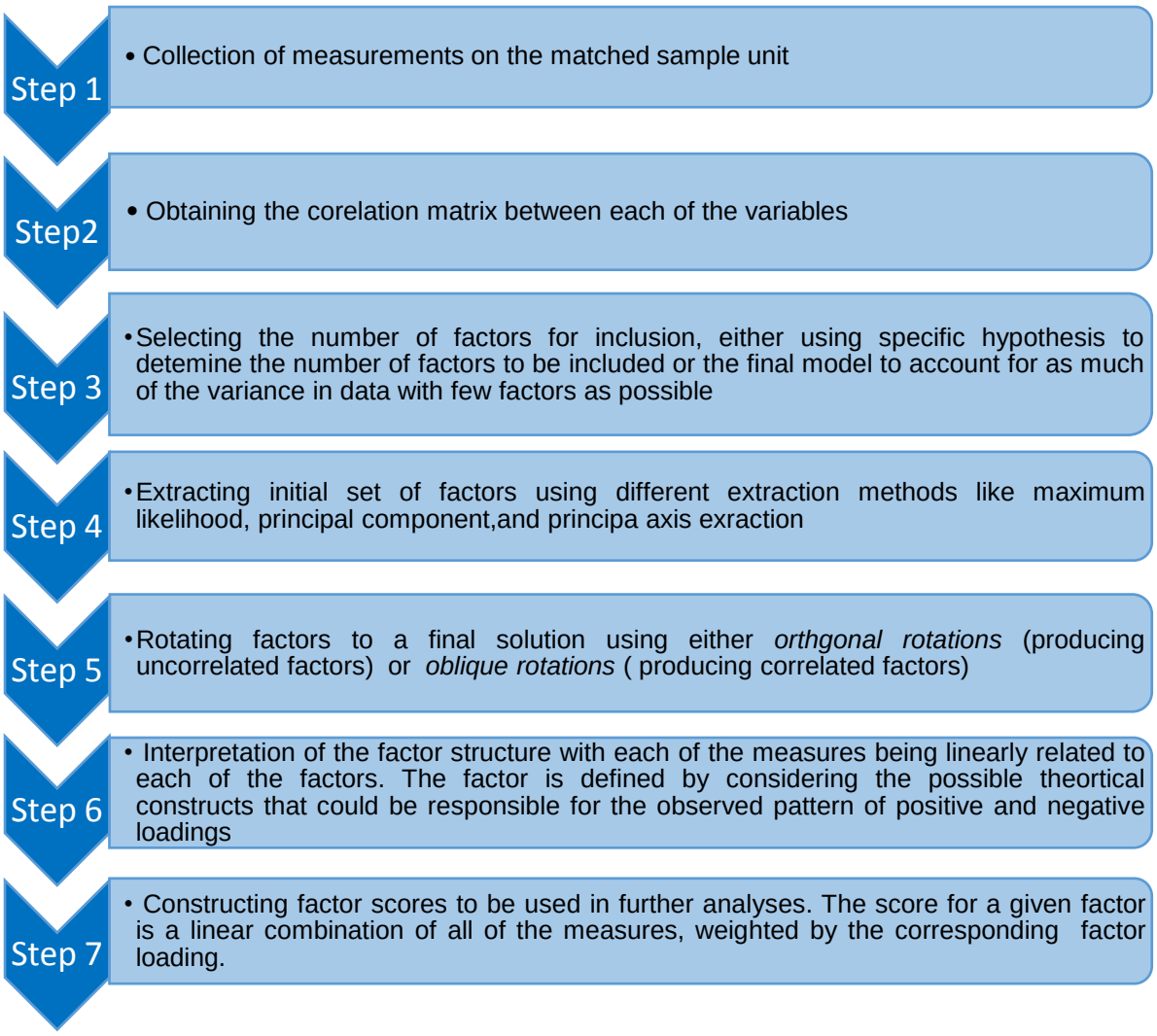
Factor analysis process involves factor extraction, criteria for extracting factors and interpretability criteria. As pointed out by Hair *et al* (1998:236) the technique for extracting factors attempts to take out as much common variance as possible in the first factor. Hair *et al* (1998) further states that subsequent factors are in turn, intended to account for the maximum amount of the remaining common variance until, hopefully, no common variance remains. Direct extraction methods obtain the factor matrix directly from the correlation matrix by application of specified mathematical models. Rotation which is the process of manipulating the reference axes, in this application, axes are turned about the origin until same alternative position is reached.

The criteria for extracting factors involve the determination of the number of factors to extract in a factor analytical procedure which means keeping the factors that account for the most variance in the data. According to Nunnally (1978) as cited in Hair *et al* (1998:237) Kaiser's criterion, suggested by Guttman and adapted by Kaiser, considers factors with an eigenvalue greater than one as common factors. Hair *et al* (1998:237) explain that the criteria for determining the number of factors also uses the Cattell's (1966) scree test. The phrase originates from an analogy between the rubble, called scree, which at a bottom of a hill collects after a landslide, and the relatively meaningless factors that result from over extraction. On a scree plot, because each factor explains less variance than the preceding factors, an imaginary line connecting the markers for successive factors generally runs from top left of the graph to the bottom right. If there is a point below which factors explain relatively little variance and above which they explain substantially more, this usually appears as an "elbow" in the plot. This plot somehow resembles the profile of a hillside. The portion beyond the elbow corresponds to the rubble, or scree, that gathers. Cattell's (1966) guidelines call for retaining factors above the elbow and rejecting those below it.

According to Hair *et al* (1998:240) the interpretability criteria of the factor analysis process should consider the following issues; 1) Are there at least three items with significant

loadings (>0.30)? 2) Do the variables that load on a factor share some conceptual meaning? Do the variables that load on different factors seem to measure different constructs? 4) Does the rotated factor pattern demonstrate simple structure, meaning are there high loadings on one factor and low loadings on other factors? Hair *et al* (1998:227) identified seven (7) basic steps in performing Exploratory Factor Analyses (EFA).

Figure 3: Seven steps to performing an exploratory factor analyses



3.7 Validity and Reliability

Validity is categorised into internal and external validity which ensures that all steps of a scientific research are adhered to (Msweli 2016). Construct, Predictive and Content validity are also used during the different phases of the research. Shuttleworth (2008:04) describes validity as a process of establishing whether all results obtained meet the requirements of a scientific research method. This is validated by making sure that the principles of research are adhered to and these include randomisation of the same control group. Msweli (2016:03) confirms that validity is about quality, rigour and trustworthiness of the study. It addresses whether the research explains or measures what it said it would. It deals with the appropriateness of the method used to answer the research questions (Msweli, 2016:04).

Campbell and Stanley (1966:05) state that external validity asks questions about the generalisability of the study. Generalisability requires the sample to be representative of the total population. In this study to ensure sample representativity, Krejcie and Morgan's (1970) formula was used to calculate the sample size.

The survey instrument used in phase 2 was pretested in a sample of 20 participants, disseminated and administered in the presence of the researcher. It was used to check for weaknesses in the instrument, understanding of the wording, as well as assessment of the validity and reliability. It was useful in enhancing the content validity of the tool. It also helped to refine the survey instrument as three questions were amended following the pretesting.

3.8 Ethical Considerations

Guillemin and Gillam (2004:263) identify two dimensions of ethics. Firstly, procedural ethics which is about seeking permission. Secondly, ethical clearance and ethics in practice which is about withholding the ethics principles of respect, beneficence and justice. In this study permission and clearance was sought from Durban University of Technology as per applicable University policies. Permission and authority was also sought from eThekwini Municipality, Deputy City Manager responsible for Moses Mabhida Stadium, see Annexure 3.

When recruiting participants a letter of information to the participants explaining the aims and objectives of the study and outlining the benefits associated with the study was sent. The consent form was sent to the participants outlining their rights to participate voluntarily and their right to privacy. Participants were ensured anonymity and confidentiality before participation. The participants were informed that the results of the study will be shared with them and will also be forwarded to key stakeholders and organisations involved in stadia infrastructure investment.

3.9 Assumptions

This study is based on two assumptions: The variables and items identified in literature capture the theoretical domain of novelty value. The study is also based on an assumption that the key informants are experts and experienced in the field of study and have the capacity to verbalise and conceptualise and therefore, dialogue as a method of generating data will be effective.

3.10 Delimitations

This study seeks to construct an index to quantify the novelty value of infrastructural investment on world cup stadia. There are six world cup stadia in South Africa built specifically for the 2010 FIFA World Cup. However, there were eight (8) used during the tournament which included rugby stadiums that existed before the tournament. However, this study focused on Moses Mabhida Stadium in Durban. Moses Mabhida Stadium is chosen due to infeasibility of collecting data from other stadiums and its proximity and accessibility of study participants. The stadium enjoys daily footfall attending small and big events including stadium attractions and the retail space. Phase 1 of the study focused on policy makers and key informants who are experts in the field of study. While the premise of the study acknowledges the tangible and value add from infrastructural investment. However, this study is not looking at economic benefits derived from infrastructural investment or events. The dimensions of the study include comfort, ambience, social cohesion, national pride, image effects, spectator numbers and number of visits. The research participants were limited to the visitors at Moses Mabhida Stadium and did not include other stadia within the Mabhida sporting precinct.

3.10 Conclusion

Following an identified gap in knowledge from literature on the conceptual clarity on what constitute novelty value, this study seeks to provide a scientific valid index (tool) to measure novelty value derived from stadia infrastructural investment. A mixed method approach was adopted resulting in a two-phased approach. In adopting a mixed approach this study involved qualitative data collection from policy makers and key informants that are involved in decisions related to world cup stadia investment. Qualitative data collected was used to develop a questionnaire that was used to collect quantitative data. Index construction required qualitative data to be collected and analysed in order to inform the index construction in the second phase of the study.

Purposive sampling was identified as the most appropriate method of selecting the 15 study participants for the first phase of research. While on the other hand sample selection in the second phase involved convenience sampling technique. The population size was arrived at by averaging the annual number of stadium visitors at Moses Mabhida stadium from 2010-2015. The total sample arrived at using Krejcie and Morgan (1970)'s formula was n = 399. In assessing the validity and reliability, the survey instrument was pretested in a sample of 20 participants, disseminated and administered in the presence of the researcher. At the same

time participants were ensured anonymity and confidentiality before participation. Qualitative data was analysed using the Content Analysis Technique. Factor analysis, an analytical tool in the Statistical Package Version 20 SPSS was used to analyse quantitative data.

Chapter 4: Data analysis

4.1 Introduction

The void in knowledge identified from literature on the theoretical vagueness and ambiguity on what constitute novelty value and the lack of a reliable instrument to measure novelty value derived from infrastructure investment is what this study seeks to contribute towards.

To fill this void in knowledge, this study is framed around two main objectives:

1. To determine the conceptual definition of novelty value using literature as well as primary data from policymakers, mega sport event officials, and world cup stadia stakeholders;

2. To determine the drivers of novelty value derived from stadia infrastructure investment. The study therefore, seeks to provide a scientific valid index (tool) to measure novelty value derived from stadia infrastructural investment.

A two-phased mixed method approach was used to address the study's main objectives. As explained in the foregoing chapter, qualitative data was collected using purposive sampling from fifteen (15) policy makers and key informants involved in decision making in stadia related functions. In the second phase of the study, a survey instrument with nine (9) demographic items and thirty seven (37) novelty value items was used to collect quantitative data. The survey instrument was distributed to participants at Moses Mabhida Stadium during events and stadium attractions as detailed in chapter 3.

This data analysis chapter is divided into two main parts that deal with (1) qualitative data analysis; and (2) quantitative analysis. Part one has six (6) sections that cover content analysis of each interview question structured around six themes. Part two covers the SPSS outputs and descriptive statistics of the study sample (n=399), descriptive statistics of each item used to construct the value index, as well as factor analysis statistics. The last section details reliability statistics.

Part 1: Qualitative Data Analysis

4.2 Qualitative data analysis

Unpacking of the themes mentioned in the foregoing section using the content analysis technique inspired by Allen-Meares(1985) follows below.

4.2.1 Social cohesion

Nearly everyone of the participants agreed that infrastructural investment in stadia positively contributes towards social interaction. A respondent commented that:

> *"Infrastructural investment bridges the divide and brings about social cohesion".*

Some key stakeholders expressed a concern about the costs of building world cup stadiums. This view was not shared by most participants. A respondent acknowledged that there may be different views on the costs of building world cup stadiums given competing social needs.

> "*Some may see these facilities as an exercise of expenditure, while others may see it as an exercise of redress and exposing to the world the best a country may have".*

While the majority of participants concurred about the capability of a stadium in bringing social inclusion and the power of the infrastructure to unite people, some cautioned that infrastructure alone cannot contribute to social cohesion. The emphasis was placed on content.

> *"Venue alone cannot contribute to social cohesion, but together with the content"*.

A spectator argued along the same logic that it is both content and infrastructure that bring people to see and experience other people. To the contrary another participant argued, you may have the content, but without infrastructure there is no value. Expanding on this point a respondent suggested that in the event an investment is to happen outside of the event that may be deemed unnecessary and fruitless. Likewise, another participant insisted that the event is a catalyst, in the case of South Africa, if there was no football world cup, the country would not have built world cup stadiums. Consequently, events are somehow drivers and turn to accelerate national plans.

> *"You do not build stadiums in the vacuum, high infrastructure cost need to be aligned to the event that will gear itself to national pride".*

Some of the participants also agreed that being at the stadium invokes a positive sense of belonging.

> "*When you engage with the asset you are equals, you are human, the extent to which the facility can invoke the feeling of being human is crucial. If after engaging and the experience makes you feel less of a human, it has failed".*

A respondent suggested that people need social platforms to meet, attending an event at the world cup stadium provides an opportunity for "*crosspollination".*For that reason, the participant refers to the networking of individuals as *"social capital"*. On the other hand, a respondent referred to world cup stadiums as "*institutions"* that bring people of diverse interest together. However, some participants cautioned that while there is value and benefits derived from stadia investment, stadiums are high cost facilities and unnecessarily increasing permanent seats may burden a stadium owner throughout the life of the asset.

4.2.2 Ambience and Atmosphere

Most stakeholders, spectators and stadium experts agreed that comfort is critical when attending an event at the stadium. There is consensus among participants that Moses Mabhida Stadium design contributes positively towards comfort and ambience. Most participants agreed that Moses Mabhida Stadium design lends itself to the ambience. Participants commented on the uniqueness of the stadium, identified the arch and seat colouring as the most unique features of the stadium which not only contribute to the sense of pride, but also to the ambience and atmosphere. A respondent commented that the stadium arch takes its design from the South African flag which most South Africans are proud and passionate about.

> *"Moses Mabhida Stadium design is one of the most revolutionary of all the world cup stadiums in South Africa".*

Some participants compared the stadium with other internationally known stadiums globally and insisted that the Durban stadium sits among the top in the world. Majority of the participants agreed that easy access to the stadium is key, collectively agreed that Moses Mabhida Stadium is easily accessible. Accordingly, you can access the stadium by rail, car, walking and or by public transport.

> "*The stadium is welcoming and people want to see it, once visited it gets recorded in your mind permanently".*

A respondent reasoned that the experience of interacting with the asset must allow for seamless access and therefore getting to the stadium must not be a "*project"*. The participants acknowledged that not every stadium is a Mabhida. However, there is an agreement on world cup stadium attributes that contribute to comfort and atmosphere irrespective of where the stadium is. Some participants mentioned sightlines and pitch view as some of the key attributes that add to stadium comfort. While other participants mentioned legroom, visibility of assisting personnel, shorter queues, proximity to other amenities, cleanliness, Wi-Fi and safety. A respondent commented that waiting in a queue irritates and is uncomfortable.

4.2.3 Image

Majority of the stakeholders and policy makers agreed that the iconic nature of the world cup stadiums contribute to the image of football world cup host cities. Accordingly, the imposing design nature of world cup stadiums brings about sentimental value and prestige to the city.

> *"In most instances the world cup stadium is probably the most expensive real estate that the city owns*".

A respondent commented that the geographic location and magnitude of a world cup stadium does influence the stadium image. Consequently, location and size where the stadium is, does impact on the image of the stadium. In comparison to traditional stadiums, most participants agreed that modern world cup stadiums are multi-dimensional and the multi-purpose nature of these assets contribute to image.

> *The stadium is not a piece of art, rather it is the cathedral of the future. Stadium allows people of all income groups to congregate around a common cause-that of a sporting or cultural event. It is one of the few public spaces where there is a singular focus on a moment. It is the space that allows the interaction of all people whether in their seats, at the merchandising stands, the food outlets or the performer's entrance. The stadium creates the space where all forms of issues that separate us is pushed aside to allow for equality amongst human beings to prevail.*

A respondent commented thatworld cup stadiums built at scale above 40,000 seats have changed city skylines forever. Even though stadiums are brick and mortar, a reasonable number of participants were in unison in that without people stadiums are not alive. Therefore, there is nothing to be proud of. Some participants agreed that the iconic

landmarks like a world cup stadium building can position a city as a tourist attraction. Referring to a personal experience of a world cup stadium, a spectator confirmed the ability of the facility to attract tourists.

> *"The world cup stadium I know is a tourist attraction, most landmarks I know are big, and there is no sense in having a small landmark".*

The stadium sector experts agreed that the image of the city will always include the profile of the stadium when reflecting on a particular city with a significant or world cup stadium. The experts cited cities around the globe like London, Paris, Sydney, Toronto, Rome, Athens, Rio, Barcelona, Madrid and Durban all of which will be unrecognisable without their stadiums.

4.2.4 National Pride

Stadium design, aesthetic view, geographic location and stadium size are the main features cited by most participants as core in contributing to national pride.

> "*As a nation, we want to have things that we hold close and dear and we are proud of. In most cases, it has been natural things. The beaches and the mountains, these are God given sites that were placed on earth by a divine being. We take pride in them because of their uniqueness. The stadium is different in the sense that we built it and placed it in a certain area so that it generates value. We are also involved in the upkeep, running and maintenance of the stadium. This instils pride in our nation".*

Participants concurred that stadiums are expensive to build and that there are different views on the value they bring. A participant cited a story of how people in Durban immediately reacted to the news of investing in a world cup stadium. At that moment, there was rejection. The inconvenience brought about by construction added to the frustration. As soon as people started to see the iconic structure, the views changed and a sense of ownership and pride started to develop. So therefore, a question arises as to why people were feeling proud of the investment that they were questioning. A respondent commented that it is so because pride comes from ownership.

Not every participant agreed that the location of a world cup stadium is of significance in relation to national pride. Notwithstanding that, there are other participants who placed geographic location of a world cup stadium at the centre of national pride. In this regard participants argued that if not properly located, additional infrastructural investment may be required in support of a world cup stadium.

4.2.5 Spectator numbers

Most participants shared the same opinion on the importance of spectator numbers in contributing to the value of the asset. Some of the stakeholders were concerned about the size of the world cup stadiums and the failure of the local content in attracting large numbers. The consequence of which may result in some stadiums becoming white elephants. Conversely, it may cause negative reputational damage for the asset.

> *"If the numbers are low it devalues the asset and the opposite is true.Spectator numbers are a vote of confidence in the infrastructure and its capabilities".*

Participants mostly agreed that it is the content that brings numbers. A respondent commented that it is vital for world cup stadium manager's to build sustainable high level quality content. *A* numberof participants agreed that spectator numbers are a good measure of whether people are enjoying the asset or not. While there was consensus about the centrality of content in bringing numbers to the stadium, however, a number of participants suggested that the duration of the event has an impact on spectator numbers. A respondent recommended a diversification of content offerings, suggesting that in the context of South Africa a venue must be able to draw different demographics. Consequently, diversity of events increase spectator numbers and thus contributes to social cohesion.

Some stadia experts stated that spectator experience has an influence on spectator numbers. The participants felt that the failure of stadiums to draw large numbers is in the main due to lack of understanding the needs of spectators. A respondent commented that stadium experience is more than just being satisfied.

> "*Satisfaction is temporal and stadium experience is permanent. When attending an event in the stadium, you are looking for value for money that offers a good experience that you cannot get when you sit at home and watch television".*

A respondent commented that such experience starts from the moment the spectator leaves home; accessibility to transport, parking, security, entrance, physical comfort, concessions, pitch view and egress are all integral attributes that add to stadium experience. Consequently, failure to provide the total stadium experience may result in a constant decrease in spectator numbers.

4.2.6 Stadium visits

Majority of the participants shared the same views with respect to the capability of world cup stadia in attracting stadium visitors. Some experts identified access to the facility as the most crucial element in drawing people, while other experts felt that it is the multipurpose nature of the world cup stadiums that contribute to stadium visits. A respondent cautioned that modern stadium designs must shift from conventional stadiums characterised by high fences and closed entry and exit points. Consequently, resulting in a repelling effect. Another respondent commented that physical open spaces bring people together and arouse the sense of belonging and commonality. Hardly any participant contested and disagreed with a notion that infrastructural investment plays a critical part in swaying people to visit stadiums.

> *"The guy that is in two minds whether to attend the event or not, the infrastructure will swing him/her towards attending".*

Expanding on the same thought, a respondent claimed that the number of stadium visits improves stadia profile. Accordingly, it affords people an opportunity to enjoy the benefits of the investment made. While participants generally agreed on the centrality of access in stadium visits, a respondent commented that stadium accessibility is largely dependent on the geographic location of the asset.

> "*The ability of the asset in drawing people from different social status is mainly determined by where the stadium is located"*.

Comfort, access, safety, parking, multi-purpose nature of the asset, cleanliness, diverse offerings are some of the attributes cited by participants as key in contributing towards repeated stadium visits. Consequently, enhancing the value of the asset and sustaining positive stadium image.

> *"Once you find that the stadium is home away from home you will have reasons to visit more often".*

For the reason that children are the future stadium customers, a respondent recommended that citizens should be allowed to take ownership of their stadiums by encouraging schools and other groupings who would not ordinarily visit a stadium to do so. Including having open days for such groups.

Part 2: Quantitative Data Analysis

4.3 Demographic profile of the sample

Table 5 below shows that 56% of the respondents were male. The median and the mode for gender is the same – male. This means that the most of the respondents were males. Table 5 also shows that the largest proportion (33%) of the respondents were 25-34 years of age, followed by those in the age category of 35-49 years (32%). Sixteen percent of the sample were those in the age category of 15-24 years. Only 2% of the respondents were 65 years and above.

Table 5 also indicates that 64% of the respondents were Black while Indian and White constitute 14% respectively; and 8% were Coloured. The median and mode values were the same – Black. This means that more than 50% of the respondents were Black. The table also points out that 27% of the respondents' highest level of education is diploma, followed by grade 12 at 21%. The highest level of education for 19% of the respondents have degree and post graduate qualifications. Table 5 also shows that 5% of the respondents' highest level of education was primary school, while only 4% had no formal schooling. Both the median and mode of the highest level of qualification of the respondents is the same – diploma. This means that the majority of the respondent's highest level of education is diploma.

Table 5 further shows that 48% of the respondents' were not married, 33% were married, 8% were divorced and 5%were separated. No more than 3% of the respondents were widow/widower and or co-habitating. The median and the mode of the marital status of the respondents is the same – single. It means therefore that most of the respondents were single.

Table 5 below shows that 53% of the respondents were employed whereas 19% of them were self-employed. Fifteen percent of the employment status of the respondents were students and 9% were unemployed. Only 5% of the respondents' employment status was pensioners. The median and the mode of the respondents is the same – employed. This means that the majority of the respondents were employed.

Table 5: Demographic profile of the study sample (n=399)

Demographic Variable	Measure	Frequency (%)	Mode	Median
Gender	Male	56	Male	Male
	Female	44		
Age	15-24	16	25-34yrs	35-49yrs
	25-34	33		
	35-49	32		
	50-64	17		
	65+	2		
Race	Black	64	Black	Black
	Coloured	8		
	Indian	14		
	White	14		
Education	No schooling	4	Diploma	Diploma
	Primary school	5		
	High school	12		
	Grade 12	21		
	Diploma	27		
	Degree	19		
	Postgraduate	12		
Marital Status	Married	33	Single	Single
	Single	48		
	Co-habitating	3		
	Separated	5		
	Divorced	8		
	Widow/widower	3		
Employment +Status	Unemployed	9	Employed	Employed
	Employed	53		
	Self-employed	19		
	Pensioner	5		
	Student	15		

4.4 Descriptive statistics of all the index items

As outlined in chapter three, the items used to capture value index were measured in a Likert Scale with “1” = “strongly disagree” and “5”= “strongly agree”. The median and the mode statistics in Table 6 capture the most commonly cited responses (mode) and how 50% of the respondents responded to each of the questions in the first column of Table 6.

Table 6 below show that the median and mode of the vibrant ambience of the world cup stadium is the same – agree. This means that most of the respondents agreed that the ambience of the world cup stadium is what attracts guests. On the ambience and atmosphere of the world cup stadium table 6 below indicates that the median and the mode is also the same – agree. Meaning that the majority of the respondents agreed that they were satisfied with the ambience and atmosphere of the world cup stadium. Similarly, the median and mode of the physical comfort of the stadium is the same – agree. This means

that most of the respondents agreed with the statement that physical comfort is really important when going to the world cup stadium.

Table 6 below illustrates that the median and mode of safety when attending the event in the world cup stadium is not the same. Median - agree and mode - strongly agree. This means that most of the respondents agree that safety contributes to the feeling of comfort when attending an event at the world cup stadium. Table 6 below also illustrates that the median and mode of being at the stadium invokes a positive sense of belonging is the same – agree. Meaning that most of the respondents were in agreement with the statement that being at the world stadium invokes a sense of belonging. Likewise, median and mode of attending an event at the stadium gives an opportunity to enjoy the beauty of the country is the same – agree. This means that a bigger proportion of the respondents agreed with the assertion that attending an event at the world cup stadium gives one an opportunity to enjoy the beauty of the country.

Table 6 further shows that the median and mode of attending an event at the stadium makes one feel proud to be a South African is similar – agree. This means that most of the respondents agreed that attending the event at the world cup stadium makes one feel proud to be a South African. The table also indicates that the median and mode of the iconic nature of the stadium contributing to the image is identical – agree. This means that majority of the respondents agree that the iconic nature of the stadium contributes to the image of the world cup stadium. Likewise, both the median and mode of frequency of the events at the stadium contribute to the image effect. Meaning that most respondents agreed that the frequency of events at the world cup stadium contributes to the image effect.

Table 6 below points out that there is a difference in the median and mode of access to Wi-Fi at the stadium. The median - strongly agree whereas mode - agree. This means that a greater proportion of the respondents' responses strongly agreed that free Wi-Fi at the stadium offers a positive stadium experience. On the other hand the table shows that the median and mode of the aesthetic view of the stadium contributing to national pride matches, that is – agree. This means that most respondents' responses agreed that the aesthetic view of the world cup stadium contributes to national pride. Likewise, the median and mode of the stadium's geographic location being critical to national pride is the same – agree. Most of the respondents' responses agreed with the statement that the geographic location of the stadium is critical to national pride. Similarly, both median and mode of the stadium size enhancing national pride is alike – agree. Therefore, meaning that the respondents agreed that the size of the world cup stadium enhances national pride.

Furthermore table 6 below indicates that the median and the mode of multipurpose nature of the stadium contributing to stadium visits are similar – agree. This means that the respondents' responses agreed that multipurpose nature of the world cup stadium contributes to the stadium visits. Equally, the median and mode of the access to the public transport being key to visiting the stadium is the same – agree. Therefore, meaning that the respondents' responses agreed to the assertion that access to public transport is key to visiting the world cup stadium. On the other hand the table shows that the median and the mode for spending time in the stadium brings about excitement is the same- agree. Therefore, it means that most respondents agreed that spending time in the world cup stadium brings about excitement.

Table 6 further illustrates that the median and the mode of hospitality capability of the stadium to spectator numbers is similar – agreed, as well that the median and mode of the duration of the event on spectator numbers, also - agree. Therefore, the respondents' responses agreed that hospitality capability has a positive effect to spectator numbers in the stadium. Likewise, the respondents also agree with statement that the duration of the event has an impact on spectator numbers.

Table 6 below also shows that the median and mode of the image of the stadium increases spectator numbers is the same – agree. This means that the majority of the respondents agreed that the image of the stadium increases spectator numbers. Similarly, the median and mode of bringing family and loved ones along when visiting the stadium is identical – agree. Therefore, it means that most respondents agreed that when one visits the stadium brings along family and friends. Table 6 again is showing that the median and the mode of events with international personalities are sure to bring one to the stadium is the same – agree. This means that a larger percentage of the respondent's responses agreed with the statement that events with international personalities are sure to bring one to the world cup stadium.

The same table 6 below indicates that the median and the mode of social interaction at the stadium promotes nation building is alike – agree. Therefore, meaning that most responses agreed that social interaction in the world cup stadium promotes nation building. At the same time the table shows that the median and mode of the iconic landmark nature of the stadium contributes to nation building is the same – agree. The respondents therefore agreed that the iconic landmark nature of the world cup stadium contributes to nation building. As shown in table 6 below the median and the mode of the commanding view of the stadium brings about dignity and a sense of belonging. This means that the respondent's responses agreed

with the assertion that the commanding view and character of the world cup stadium brings about dignity, humanity and sense of belonging.

The median and mode of cleanliness having a positive effect in the stadium as shown in table 6 below is the same- strongly agree. Therefore, meaning that respondent's responses strongly agreed that cleaning has a positive effect to spectator numbers in the stadium.The median and mode of the impact of the duration on spectator experience in the stadium as shown in table 6 below is the same – agree. This means that respondents agreed that the duration of the event has an impact on spectator numbers in the stadium. Table 6 below shows that the median and the mode of upkeep and maintenance are different. The median - strongly agree whereas the mode - agree. This means that the greater proportion of the respondents strongly agreed that upkeep and maintenance is important in the world cup stadium. The table below also illustrates that the median and the mode of long queues when attending the event at the stadium is the same – disagree. This means that the respondents disagreed with the statement that they don't mind standing in long queues when attending an event at the world cup stadium.

Table 6 below also shows that the median and the mode of facilities for disabled spectators when visiting the stadium is similar – agree. This indicates that the biggest percentage of the respondents agreed that facilities for disabled spectators are important when visiting the world cup stadium. At the same time the table below demonstrates that the median and mode of clear pitch view in a stadium is the same – agree. This means that most of the respondents agreed with the statement that a clear pitch view is essential in a world cup stadium.

The same table 6 below illustrates that the median and mode of directional signage in the stadium is the same – agree. This means that the respondents agreed that directional signage is important in a world cup stadium. Similarly, both the median and mode of food and beverages being sold at the world cup stadium is identical – agree. Therefore, meaning that the respondents agreed with the statement that they expected food and beverages to be sold at the world cup stadium. Table 6 below further shows that the median and mode of parking when attending an event at the stadium is different. The median – agree and mode - strongly agree. This means that the greater proportion of the respondents' responses strongly agreed that parking is key when attending an event or visiting a world cup stadium.

Table 6: Descriptive statistics of index items (n=399)

Index item	Mode	Median
The vibrant ambience of the stadium is what attracts guests	Agree	Agree
I am satisfied with the ambience and atmosphere of the stadium	Agree	Agree
Physical comfort is important when going to the stadium	Agree	Agree
Safety contributes to the feeling of comfort when attending an event at the stadium	Strongly agree	Agree
Being at the stadium invokes a positive sense of belonging	Agree	Agree
Attending an event at the stadium gives me an opportunity to enjoy the beauty of my country	Agree	Agree
Attending an event at the stadium makes me feel proud to be South African	Agree	Agree
The iconic nature of the stadium contributes to the image of the stadium	Agree	Agree
Frequency of events at the stadium contributes to the mage effect	Agree	Agree
Access to free Wi-Fi at the stadium offers a positive stadium experience	Strongly agree	Agree
Aesthetic view of the stadium contributes to national pride	Agree	Agree
Geographic location of the stadium is critical to national pride	Agree	Agree
The size of the stadium enhances national pride	Agree	Agree
Multipurpose nature of the stadium contributes to stadium visits	Agree	Agree
Access to public transport is key to visiting the stadium	Agree	Agree
Spending time in the stadium brings about excitement	Agree	Agree
Hospitality capability has a positive effect to spectator numbers in the stadium	Agree	Agree
Duration of the event has an impact on spectator numbers	Agree	Agree
The image of the stadium increases spectator numbers	Agree	Agree
An event at the stadium gives me an opportunity to link up	Agree	Agree

with friends and family		
Events with famous international personalities are sure to bring me to the stadium	Agree	Agree
Social interaction in the stadium promotes nation building	Agree	Agree
The iconic landmark nature of a stadium contributes to nation building	Agree	Agree
The commanding view and character of the stadium brings about dignity, humanity and sense of belonging	Agree	Agree
Cleanliness has a positive effect to spectator experience in the stadium	Strongly agree	Strongly agree
Duration of the event has an impact on spectator experience in the stadium	Agree	Agree
Upkeep and maintenance is important in the stadium	Strongly agree	Agree
I don't mind standing in long queues when attending an event in the stadium	Disagree	Disagree
Facilities for disabled spectators are really important to me when I visit the stadium	Agree	Agree
A clearer pitch view is essential in a stadium	Agree	Agree
Directional signage (way-finding) is important in a stadium	Agree	Agree
I expect food and beverages to be sold at the stadium	Agree	Agree
Parking is key when attending an event or visiting a stadium	Strongly agree	Agree

4.5 Factor analysis findings

4.5.1 Validity Issues

As explained in Msweli (2016) the Barlett test of sphericity provides the statistical probability that the correlation matrix has significant correlations among the variables under study. The overall measure of sampling adequacy (MSA) quantifies the degree of intercorrelations among variables and the appropriatness of factor analysis Hair *et al* (1998). The MSA index as explained by a number of authors (*Hair et al,* 2016) ranges from 0 to 1, with '1' representing a perfectly predicted dependent variable without error and '0' representing no structure and no relationship between dependant and predictive variables . As explained by Hair *et al* (1998) MSA is usually interpreted with the following guidelines: .80 or above meritorious; .70 or above, middling; 60 or above mediocre; 50% or above miserable; and below .50 unacceptable. Table 7 below shows that the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy is 0.862, which, according to the guidelines outlined above is meritous.

Table: 7 KMO and Barlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	0.862
Bartlett's Test of Sphericity Approx, Chic-Square	3094.173
df.	528
Sig.	0.000

Table 7 also shows a high Barlett's Test of Sphericity (3,094.173) which is significant (p<0,0001).

Correlation matrix table 8 below shows that less than 50% of items are < 0.3. This is inconsistent with Barlett's findings. This explains why they were fewer items loading on the nine factors, even thought the Eigen value for each factor (construct) is more than one. The model needs to be tested on different data to enhance its validity and its generaliseability.

Table 8: Correlation matrix

Correlation

Vibrant ambiance of the stadium	1,00																																
ambiance and atmosphere	0,39	1,00																															
physical comfort is important to me	0,09	0,04	1,00																														
safety when attending the event	0,24	0,17	0,24	1,00																													
positive sense of belonging	0,35	0,33	0,20	0,28	1,00																												
opportunity to enjoy the beauty of the country	0,25	0,25	0,04	0,30	0,44	1,00																											
attending an event makes me feel proud to be South African	0,24	0,29	0,03	0,13	0,29	0,48	1,00																										
the iconic nature of the stadium contributes to the image	0,22	0,25	0,06	0,18	0,28	0,33	0,52	1,00																									
frequency of events contribute to the image effect	0,17	0,29	0,05	0,16	0,24	0,13	0,22	0,35	1,00																								
access to free wifi offers positive stadium experience	0,09	0,16	0,17	0,29	0,20	0,19	0,11	0,17	0,28	1,00																							
aesthetic view of the stadium contributes to national pride	0,20	0,19	0,12	0,27	[illegible]	0,22	0,22	0,19	0,39	0,36	1,00																						
geographic location of the stadium is critical to national pride	0,13	0,25	0,00	0,09	0,21	0,18	0,23	0,23	0,22	0,17	0,31	1,00																					
size of stadium	0,20	0,29	0,01	0,13	0,21	0,31	0,33	0,24	0,25	0,13	0,35	0,44	1,00																				
multipurpose nature of stadium contributes to stadium visits	0,20	0,21	0,00	0,14	0,15	0,31	0,35	0,16	0,14	0,14	0,22	0,24	0,35	1,00																			
access to public transport is key to visiting stadium	0,26	0,20	0,11	0,26	0,29	0,26	0,30	0,23	0,24	0,27	0,27	0,18	0,29	0,33	1,00																		
spending time in the stadium brings about excitement	0,21	0,26	0,06	0,14	0,26	0,27	0,28	0,29	0,18	0,18	0,30	0,20	0,32	0,29	0,35	1,00																	
hospitality capability has a positive effect to spectator numbers	0,19	0,18	0,05	0,18	0,21	0,21	0,19	0,26	0,21	0,16	0,18	0,17	0,31	0,16	0,28	0,34	1,00																
duration of the event has an impact on spectator numbers	0,14	0,21	0,01	0,03	0,26	0,20	0,23	0,19	0,19	0,06	0,21	0,19	0,26	0,11	0,20	0,32	0,45	1,00															
image of teh stadium increases spectator numbers	0,17	0,16	0,10	0,14	0,19	0,16	0,31	0,17	0,14	0,12	0,24	0,15	0,29	0,25	0,24	0,38	0,33	0,38	1,00														
when I visit stadium I bring my family and loved ones	0,16	0,07	0,02	0,04	0,12	0,13	0,22	0,16	0,13	0,01	0,14	0,08	0,20	0,09	0,22	0,25	0,23	0,18	0,25	1,00													
events with famous international personalities are sure to bring me	0,16	0,21	0,00	0,07	0,20	0,20	0,24	0,14	0,18	0,04	0,20	0,21	0,31	0,16	0,17	0,30	0,31	0,30	0,35	0,35	1,00												
social interaction promotes nation building	0,16	0,17	0,04	0,15	0,19	0,24	0,21	0,16	0,22	0,15	0,19	0,17	0,28	0,16	0,23	0,25	0,25	0,28	0,32	0,22	0,32	1,00											
iconic landmark nature of a stadium contributes to nation building	0,18	0,19	0,03	0,16	0,27	0,18	0,22	0,16	0,22	0,15	0,24	0,14	0,30	0,21	0,25	0,34	0,29	0,23	0,38	0,26	0,21	0,44	1,00										
the commanding view and character brings about sense of belonging	0,24	0,17	-0,02	0,08	0,27	0,22	0,21	0,10	0,19	0,08	0,20	0,21	0,26	0,17	0,21	0,27	0,21	0,25	0,33	0,22	0,34	0,31	0,45	1,00									
cleanliness has a positive effect to spectator experience	0,19	0,10	0,12	0,27	0,15	0,16	0,14	0,07	0,11	0,16	0,20	0,07	0,12	0,23	0,16	0,24	0,24	0,16	0,27	0,09	0,19	0,28	0,29	0,23	1,00								
duration of the event has an impact on spectator experience	0,12	0,20	-0,04	0,13	0,13	0,17	0,22	0,02	0,09	0,05	0,12	0,14	0,24	0,23	0,12	0,20	0,23	0,31	0,29	0,11	0,24	0,20	0,18	0,22	0,21	1,00							
upkeep and maintenance is important to spectator experience	0,06	0,06	0,16	0,16	0,08	0,16	0,05	0,07	0,12	0,17	0,21	0,07	0,16	0,19	0,20	0,16	0,17	0,08	0,09	0,04	0,09	0,06	0,11	0,13	0,19	0,12	1,00						
I dont mind standing in long queues when attending an event	0,02	0,06	-0,15	-0,08	-0,01	-0,05	0,05	0,01	-0,01	0,00	0,01	0,06	0,02	-0,03	-0,06	0,08	-0,05	0,08	0,12	0,08	0,08	0,12	0,07	0,09	-0,13	0,08	-0,16	1,00					
facilities for diabled are important	0,10	0,01	0,24	0,15	0,08	0,04	0,02	0,08	0,05	0,14	0,11	0,11	0,02	0,05	0,17	0,10	0,10	0,05	0,06	-0,02	0,06	0,08	0,04	0,06	0,13	-0,02	0,16	-0,27	1,00				
a clearer pitch view is essential in a stadium	0,06	0,09	0,14	0,21	0,19	0,16	0,16	0,14	0,10	0,17	0,18	0,22	0,20	0,20	0,15	0,21	0,17	0,16	0,24	0,05	0,15	0,19	0,14	0,13	0,22	0,20	0,13	-0,03	0,15	1,00			
directional signage is important in a stadium	0,01	0,04	0,27	0,15	0,09	0,10	0,04	0,06	0,04	0,05	0,16	0,11	0,05	0,11	0,14	0,08	0,14	0,06	0,08	0,05	0,07	0,05	0,05	0,02	0,09	0,03	0,25	-0,27	0,34	0,14	1,00		
I expected food and beverages to be sold at the stadium	0,06	0,07	0,10	0,12	0,13	0,08	0,13	0,09	0,08	0,06	0,12	0,12	0,13	0,04	0,07	0,13	0,15	0,12	0,12	0,24	0,29	0,23	0,20	0,15	0,13	0,13	0,08	-0,07	0,21	0,27	0,17	1,00	
parking is key when attending an event	0,12	0,09	0,15	0,18	0,17	0,15	0,18	0,21	0,04	0,18	0,16	0,19	0,18	0,17	0,24	0,24	0,17	0,08	0,20	0,04	0,22	0,12	0,17	0,14	0,14	0,06	0,14	-0,08	0,19	0,27	0,21	0,28	1,00

4.5.2 Commonalities of indicators in the V-index framework

Table 9 below shows that all the communality values for the items in the framework are above 0.3, confirming that all items are potential indicators of the V-index. This explains why there were fewer items loading on the nine factors, even though the Eigen value for each factor (construct) is more than one. The model needs to be tested on different data to enhance its validity and its generalisebility.

Table:9 Communality of indicators

	Initial	Extraction
Vibrant ambience of the stadium	1.000	0.571
Ambience and atmosphere	1.000	0.571
Physical comfort is important to me when I go to the stadium	1.000	0.425
Safety when attending the event	1.000	0.530
Positive sense of belonging	1.000	0.554
Opportunity to enjoy the beauty of the country	1.000	0.557
Attending an event makes me feel proud to be South African	1.000	0.665
The iconic nature of the stadium contributes to the image	1.000	0.651
Frequency of events contribute to the image effect	1.000	0.567
Access to free Wi-Fi offers positive stadium experience	1.000	0.597
Aesthetic view of the stadium contributes to national pride	1.000	0.551
Geographic location of the stadium is critical to national pride	1.000	0.629
Size of the stadium	1.000	0.577
Multipurpose nature of stadium contributes to stadium visits	1.000	0.638
Access to public transport is key to visiting stadium	1.000	0.465
Spending time in the stadium brings about excitement	1.000	0.449
Hospitality capability has a positive effect to spectator numbers	1.000	0.580
Duration of the event has an impact on spectator numbers	1.000	0.684
Image of the stadium increases spectator numbers	1.000	0.521

When I visit the stadium I bring my family and loved ones	1.000	0.519
Events with famous international personalities are sure to bring me to the stadium	1.000	0.498
Social interaction in the stadium promotes national building	1.000	0.458
Iconic landmark nature of a stadium contributes to nation building	1.000	0.580
The commanding view and character of these stadium brings about sense of belonging	1.000	0.538
Cleanliness has a positive effect on spectator experience	1.000	0.503
Duration of the event has an impact on spectator experience	1.000	0.566
Upkeep and maintenance is important to spectator experience	1.000	0.450
I don't mind standing in long queues when attending an event	1.000	0.522
Facilities for disabled are important	1.000	0.469
A clearer pitch view is essential in a stadium	1.000	0.575
Directional signage is important in a stadium	1.000	0.532
I expect food and beverages to be sold at the stadium	1.000	0.597
Parking is key when attending an event	1.000	0.483

4.5.3 Factors extracted – total variance explained

The second column of table 10 provides Eigen values of each factor. As explained in chapter three, using Kaiser's criterion the factors that are retained are those with Eigen values of one and above. On the basis of this criterion, the first nine factors constitute the factor solution for this. Table 10 further shows that the total variance explained by the first factor is 20.8 %. The cumulative variance of the factor solution is 55%.

Table: 10 Extracted factors

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.862	20.795	20.795	6.862	20.795	20.795
2	2.264	6.862	27.657	2.264	6.862	27.657
3	1.798	5.447	33.104	1.798	5.447	33.104
4	1.328	4.024	37.127	1.328	4.024	37.127
5	1.274	3.859	40.987	1.274	3.859	40.987
6	1.255	3.803	44.790	1.255	3.803	44.790
7	1.161	3.517	48.307	1.161	3.517	48.307
8	1.081	3.277	51.584	1.081	3.277	51.584
9	1.051	3.184	54.767	1.051	3.184	54.767
10	0.961	2.913	57.680			

Consistent with table 10 findings, the first factor in table 11 below has the largest number of items. In interpreting the factor solution Hair *et al* (1998) suggest that the items that load strongly with more one factor should be deleted to enhance the reliability of the measure or index, if it makes theoretical sense. The items that would have been affected would have been items 2, 9, 14, 18, 20, 26 and 30 as these loaded strongly with more than one factor. However, these items were not deleted from the factor solution because it did not make theoretical sense to remove them at this stage. Following Hair's advice to retain items that make theoretical sense, items 10, 27 and 33 were also retained even though they loaded strongly with more than one factor because the respondents felt strongly about the value of these items in the stadium experience (see table 6 above).

4.5.3 Factor solution (with factor loadings)

Table: 11 Factor solutions

	1	2	3	4	5	6	7	8	9
1. Vibrant ambience of the stadium	0.445	-0.022	-0.275	0.167	0.324	-0.167	-0.016	0.242	-0.277
2. Ambience and atmosphere	0.470	-0.110	-0.363	0.002	0.077	-0.013	-0.018	0.424	-0.143
3. Physical comfort is important to me when I go to the stadium	0.179	0.527	0.054	0.141	0.225	0.075	0.041	0.075	0.171
4. Safety when attending the event	0.405	0.371	-0.161	0.337	0.089	-0.103	0.240	0.047	0.098
5.Positive sense of belonging	0.544	0.077	-0.274	0.125	0.318	-0.005	0.098	0.224	-0.025
6 .Opportunity to enjoy the beauty of the country	0.536	0.027	-0.325	-0.104	0.156	-0.338	0.101	-0.068	-0.010
7. Attending an event makes me feel proud to be South African	0.563	-0.147	-0.305	-0.335	0.155	-0.202	0.087	-0.203	0.091
8. The iconic nature of the stadium contributes to the image	0.478	0.005	-0.389	-0.289	0.252	0.115	-0.025	-0.211	0.255
9. Frequency of events contribute to the image effect	0.450	-0.010	-0.284	0.150	-0.080	0.445	-0.237	0.030	-0.001
10. Access to free Wi-Fioffers positive stadium experience	0.370	0.288	-0.228	0.331	-0.232	0.304	0.131	-0.143	0.179
11.Aesthetic view of the stadium contributes to national pride	0.537	0.140	-0.165	0.175	-0.275	0.317	-0.081	-0.008	-0.047
12. Geographic location of the stadium is critical to national pride	0.448	-0.024	-0.155	-0.315	-0.368	0.276	0.081	0.218	-0.199
13. Size of the stadium	0.591	-0.161	-0.084	-0.233	-0.318	0.050	-0.079	0.026	-0.174
14. Multipurpose nature of stadium contributes to stadium visits	0.477	0.008	-0.140	-0.139	-0.370	-0.404	0.035	-0.205	-0.169
15. Access to public transport is key to visiting stadium	0.550	0.136	-0.131	0.047	-0.018	-0.062	-0.170	-0.301	-0.013
16. Spending time in the stadium brings about excitement	0.605	-0.097	0.057	-0.019	-0.027	-0.045	-0.085	-0.185	0.159
17. Hospitality capability has a positive effect to spectator numbers	0.542	-0.052	0.195	-0.007	0.054	-0.017	-0.348	0.094	0.335
18. Duration of the event has an impact on spectator numbers	0.498	-0.256	0.185	-0.043	0.025	0.015	-0.276	0.309	0.402
19. Image of the stadium increases spectator numbers	0.565	-0.203	0.291	0.087	-0.029	-0.083	0.011	-0.076	0.234
20. When I visit stadium I bring my family and loved ones	0.374	-0.248	0.231	-0.088	0.322	0.150	-0.189	-0.289	-0.108
21. Events with famous international personalities are sure to bring me to the	0.517	-0.241	0.308	-0.181	0.106	0.108	-0.027	0.108	-0.100

stadium									
22. Social interaction in the stadium promotes national building	0.520	-0.192	0.248	0.196	0.072	0.114	0.132	-0.081	-0.093
23. Iconic landmark nature of a stadium contributes to nation building	0.552	-0.186	0.230	0.299	0.053	0.051	0.037	-0.223	-0.207
24. The commanding view and character of the stadium brings about sense of belonging	0.507	-0.243	0.214	0.188	0.046	-0.008	0.003	0.000	-0.372
25. Cleanliness has a positive effect to spectator experience	0.425	0.136	0.258	0.371	-0.051	-0.295	0.098	-0.026	-0.014
26. Duration of the event has an impact on spectator experience	0.395	-0.219	0.197	0.022	-0.247	-0.329	0.072	0.363	0.133
27. Upkeep and maintenance is important to spectator experience	0.297	0.358	0.103	0.078	-0.288	-0.162	-0.306	-0.091	-0.075
28.I don't mind standing in long queues when attending an event	0.010	-0.566	-0.079	0.133	-0.077	0.218	0.312	-0.031	0.159
29. Facilities for disabled are important	0.212	0.563	0.206	-0.113	0.102	0.093	-0.101	0.098	-0.117
30. A clearer pitch view is essential in a stadium	0.405	0.211	0.188	-0.133	-0.206	-0.002	0.459	0.102	0.226
31. Directional signage is important in a stadium	0.223	0.554	0.223	-0.227	0.021	-0.022	-0.245	0.087	-0.078
32. I expected food and beverages to be sold at the stadium	0.329	0.143	0.410	-0.261	0.217	0.252	0.307	0.073	-0.149
33. Parking is key when attending an event	0.392	0.295	0.151	-0.286	0.011	0.068	0.332	-0.149	0.032

On the basis of measurement theory as espoused by Nunnaly (1978), measuring instrument/index with a Cronbach alpha less that .6 is deemed unreliable. Accordingly, factors 3, 4, 5, 8 and 9 are not retained in the final factor solution because they loaded only one item.

Table: 12 Factor solution dimensions, items and Cronbach Alpha reliability statistics

Factor Solution/ V-Index Dimension	Indicators/Items	Cronbach Alpha – Reliability statistics
Spectator experience	1. Vibrant ambience of the stadium	.84
	2. Safety when attending the event	
	3. Positive sense of belonging	
	4. Opportunity to enjoy the beauty of the country	
	5. Attending an event makes me feel proud to be South African	
	6. The iconic nature of the stadium contributes to the image	
	7. Aesthetic view of the stadium contributes to national pride	
	8. Geographic location of the stadium is critical to national pride	
	9. Size of the stadium	
	10. Access to public transport is key to visiting stadium	
	11. Spending time in the stadium brings about excitement	
	12. Hospitality capability has a positive effect to spectator numbers	
	13. Image of the stadium increases spectator numbers	
	14. Events with famous international personalities are sure to bring me to the stadium	
	15. Social interaction in the stadium promotes national building	
	16. Iconic landmark nature of a stadium contributes to nation building	
	17. The commanding view and character of the stadium brings about sense of belonging	
	18. Parking is key when attending an event	
Novelty Continuance	1. Upkeep and maintenance is important to spectator experience	.50
	2. Facilities for disabled are important	
	3. Directional signage is important in a stadium	
Modernity	1. Frequency of events contribute to theimage effect	.40
	2. Access to free Wi-Fi offers positive stadium experience	
	3. Multipurpose nature of stadium contributes to stadium visits	
	Total reliability of the index (V-index)	.84

4.5.4 Reliability of the index

Table 12 shows that the index that this study constructed has three dimensions and 24 items. Reliability statistics show that the most internally consistent dimension of the index has 18 indicators, and is named **spectator experience.** The next significant dimension even though the Cronbach alpha is lower than the required threshold of 0.7-0.6, has three indicators and is named **novelty continuance**. The last dimension of the index has three indicators, a low Cronbach alpha (.4) and is named **modernity**.

The measure of the overall reliability of the index is .84, which deems the Value Index a reliable instrument to measure novelty value.

4.6 Conclusive reflections on the findings

This chapter presented the qualitative findings used to provide a deeper understanding of the novelty value concept from the perspective of the key informants as described in chapter three. The key themes that emerged from the qualitative findings include: Social cohesion, ambiance and atmosphere, image, national pride, spectator numbers and stadium visits.

These themes shaped the construction of the survey instrument used to construct the V-index. This chapter also presented the demographic profile of the respondents that participated in the study. On balance there were 56% males, 44 females; and the median value education was diploma. More than 50% of the study participants were Black, single, employed with diploma being the highest level of qualification.

Generally, the respondents agreed with the statements in the survey instrument and felt strongly about safety and its contribution to the feeling of comfort when attending the event at the stadium. Respondents also disagreed with standing in long queues when attending the event at the stadium andstrongly agreed that upkeep and maintenance, parking, and Wi-Fi are important attributes when visiting the world cup stadium.

The most signifant aspect of this chapter is the presentation of the factor analysis findings that detailed the validity and the reliability of the novelty value index (V-index). Firstly, the Barlett test of sphericity, the measure of sampling adequacy and the correlation matrix statistics showed and provided sufficient evidence of the robustness of the model. Cronbach alpha's reliability statistic (.84) shows that the index (V-index) that this study constructed is internally consistent and reliable.

5. Discussion and Conclusion

5.1 Introduction

This study focuses at novelty value within the stadia context and seeks to construct an index to quantify the novelty value of infrastructural investment on stadia. There is evidence in literature that there is lack of conceptual clarity on what constitutes novelty value. There is no instrument or tool that has been developed to measure novelty value of stadia investment over a period of time.

To fill this gap in knowledge, this study is framed around two main objectives: 1) To determine the conceptual definition of novelty value using literature as well as primary data from policymakers, mega sport event officials, and world cup stadia stakeholders; 2) To determine the drivers of novelty value derived from stadia infrastructure investment. The study therefore, seeks to provide a scientific valid index (tool) to measure novelty value derived from stadia infrastructural investment

In comparison to existing studies that look at the impact of stadia infrastructure investment, the focus of this study is novelty value derived from infrastructural investment. The study takes a novelty value framework as proposed by Allmers and Maennig (2009:509). The authors reason that the long term benefits of hosting the World Cup should not only be about building the stadiums. Financial returns only are not enough to justify the infrastructural investment. The investment can be better justified if communities around the infrastructure are better off post hosting the event (Allmers and Maennig 2009:509; Burton 2003:35).

The arguments in support of investing in mega events and the potential to bring about both social and economic opportunities have been extensively studied. The focus in the main has been in different methods and models to measure the economic impacts of hosting mega events. Research in this topic mainly focuses on financial benefits of infrastructure investment. Even though there are considerable non financial benefits and effects of hosting, majority of the research centres around the tangible economic benefits (Heisy 2009:02).

Literature in this subject provides different views on effects and benefits of hosting transformational large-scale mega-events that may result in infrastructure legacy. While the focus has been in the main on economic benefits of hosting, Santo (2005:191) insists that the independent empirical research has found no evidence of economic benefits associated with mega sport events. Humphrey and Fraser (2015:04) confirm that earlier studies concluded that benefits of hosting are not only just fiscal, but are also intangible. This view is

supported by Florek and Breitbarth (2008:80). Florek and Breitbarth (2008) contest that there are large benefits associated with mega events, the authors places more weight on soft benefits such as image and national pride.

Scholars generally agree that novelty is not clearly defined in literature (Li and Croft 2004:02; Gershman and Liv 2015:394). Different scholars adopt different approaches and arguments in approaching novelty. Novelty is therefore applicable in different contexts. According to Nitecki (1990) as cited in Pigliucci (2008:887) in the natural science context "evolutionary novelty" is a phrase constantly used in evolutionary biology. In the context of e-business del Rio Olivares (2013:68) study the value creation process from a stakeholder perspective. The author suggests that both in short and long term e-business initiatives have an effect in the shareholder value of firms. Similarly, Turban (2008:21) in a slightly different approach concludes that in e-business, novelty creates value through innovative ways for structuring transactions, connecting partners and fostering new markets.

In tourism context Lee and Crompton (1992:733) explains that travel is motivated by the individual's desire for novelty, arousal or stimulation. The author argues that people may want to travel because they want to experience something new, something unknown. On the other hand Zhang (2012:144) proposes three characteristics of novelty, namely; unknown, satisfactory and dissimilarity. According to Zhang (2012:144) novelty can also be used as one of the key metrics to measure customer satisfaction.

As mentioned above this study looks at the conceptual framework of novelty value within the stadia context and seeks to construct an index to quantify the novelty value derived from infrastructural investment on stadia. Allmers and Maennig (2009:35) claim that newly build or revamped stadium structures stimulate a novelty effect: curiosity, increases in comfort, improved views, and a better atmosphere which may lead to significantly higher spectator numbers soon after the improvements. Coates and Humphrey's study (2003:01) supports this view and confirm the existence of increased "novelty effect" on attendance in newly build stadia at professional sporting events. On the other hand Liu (2013:02) suggests that in the short term the hosting of a World Cup will not bring about benefits however it may be beneficial in the long term. Allmers and Maennig (2009:35) identify three factors that are considered to be beneficial long after the event has happened, namely; the novelty effect on new stadia, the feel good effect on citizens and the World Cup effect on international perceptions of a host country.

Allmers and Maennig (2009:510) confirm that intangible outcomes of hosting sporting events like a World Cup or Olympics may be hard to measure. In support of this view (Heisy 2009:06) suggests that intangible benefits should form essential part of the benefit

associated with hosting mega events. The author insist that the intangible benefits of hosting are often acknowledged in these studies, however, they are often written off as too complex to measure. It is for this reason that this study seeks to contribute towards providing conceptual definition of novelty value based on literature. In addition, the study seeks to determine novelty value drivers derived from stadia infrastructure investment with an intention to construct an index to measure novelty value. There are six themes inspired by literature identified to initiate the index construction process. Namely; social cohesion, ambiance, comfort, image, national pride, visits to the stadium and spectator numbers.

5.2 Brief synopsis of the thesis

This study is structured into five chapters. Chapter one provides a bird eye view of the study. The chapter provides a summary of the study rational and motivation. The chapter introduces the problem statement and the purpose of the study in brief. Chapter one also provides the structure of the entire thesis. Chapter two's focus is literature review, providing the theoretical framework of the study. The literature presents definitions, arguments and approaches taken by different scholars around concepts related to novelty value. As well as arguments related to stadia attributes which contribute to holistic stadium experience. The variables and dimensions that have emerged from literature inform the value index.

Chapter three is methodology, presents details on the research approach. The chapter outlines all research design processes, data collection processes and sampling process. It provides population details and addresses ethical issues around data access. The chapter also provides interview protocol and explanation of analytical tool(s) that are used to analyse the data. The chapter indicates in some detail how reliability of instruments is validated and provides details of the ethical considerations.

Chapter four presents the detail account of how data is analysed. The chapter is structured into two main parts that deal with qualitative data analysis and quantitative analysis. Part one presents content analysis of each interview question based on identified themes from literature. Part two covers the SPSS outputs and descriptive statistics of the study sample (n=399), descriptive statistics of each item used to construct the value index, as well as factor analysis statistics. The last section details reliability statistics

Chapter five reiterates the overall aim of the study. Briefly visits the study's theoretical framework and discusses the gaps in literature. The chapter provides description of study participants for both qualitative and quantitative parts of the research. The findings of the

study are discussed addressing the two research questions and fusing in theory. The chapter identifies literature that confirms, disconfirm or modify study findings and provide insights into why data came out as it did. Chapter five explains the contribution to knowledge based on study findings and outlines study implications in practice. The chapter concludes with study limitations and avenues for future research.

5.3 Description of study participants

In adopting a mixed approach this study collected qualitative data in the first part of the study from policy makers and key informants that are involved in decisions related to world cup stadia investment. Policy makers involve Sport and Recreation South Africa (SRSA), Provincial Governments, Metropolitan municipalities, South African Sport Confederation and Olympic Committee (SASCOC) and South African Football Association (SAFA). The key stakeholders involve football fans, stadia business partners and event organisers. Participants for part two of the study are patrons of Moses Mabhida stadium (n=399) attending events and stadium attractions. The majority of the participants are employed black single males with diploma qualifications aged between 25 -34 years of age.

5.4 Conclusion on the first research question: Conceptual definition of novelty value

As indicated above there are two research questions that this study seeks to address. With respect to question one the findings of the six themes which were developed from literature and used to frame interview questions are discussed, as well as the results that have emerged from part two of the study which is quantitative in nature.

The study confirms that vibrant ambiance, atmosphere and physical comfort are key stadium attributes which attract guests in attending stadium events. This is consistent with literature. According to Allmers and Maennig (2009:35) newly renovated stadium structures stimulate a novelty effect: curiosity, increases in comfort, improved views, and a better atmosphere which may lead to significantly higher spectator numbers soon after the improvements. Similarly, majority of the stakeholders, spectators and stadium experts agree that comfort is critical when attending an event at the stadium. In the case of Moses Mabhida stadium in Durban there is generally an agreement among participants that the stadium design contributes positively towards comfort and ambiance. Likewise, Edensor (2013:01) states that atmosphere is an essential part of match day experience. The author claims that atmosphere at football stadiums internationally constitute part of television production.

Melrose, Hampton and Manu (2011:2205) suggest that spectator standing in the main is as a result of different factors such as; spectator comfort, moments of excitement, atmosphere of the crowd and fixture of the game. The findings also confirm the assertion by Willsallen (2004:11). The researcher concludes that architectural acoustics contribute in supporting electrifying atmosphere in sporting stadia.

Consistent with conceptual approaches and arguments this study confirms the assertion that social interaction in the stadium promotes nation building. The respondents' responses and views of the stadia sector experts are in agreement with literature in that the geographic location, aesthetic view, size, iconic landmark and the commanding view of the stadium, all contribute to national pride, image and nation building. In confirming this assertion Lee, Cornwell and Babiak (2012:97) cite social cohesion and national pride as key novelty and intangible values derived from mega event investment. Expanding on the same logic, Atkinson and Mourato (2008:13) point out a set of noneconomic benefits for hosting mega events. The authors list national pride, improved awareness of disability; source of inspiration for children; legacy of sports for the future, enhanced international reputation and renewed community spirit as of great worth to a country on a path to building its tourism economy.

Some of the stadia sector expects and policy makers caution that infrastructure alone cannot contribute to social cohesion, rather the emphasis must be placed on content. By implication, venue alone cannot contribute to social cohesion, but together with the content. This view is supported by Knott, Swart and Visser (2015:01). The authors confirm that quality indicators such as social cohesion and civil pride although short term in nature may accrue from hosting a mega sporting event. Accordingly there is generally accepted view that civil pride and social cohesion is created through hosting. According to Florek (2009:24) there are a whole host of broadly published benefits that can be achieved from hosting mega sports events, accordingly cities strongly contend to host such events to improve and enhance their image According to Pirsl and Lukac-Zoranic (2012:97) the understanding that elite sports events and national exploit promote social cohesion, national pride and international prestige are the main reason for host cities to have the political appetite and energy to host sports events.

Gumede, Mazibuko and Msweli (2017:61) take a slant that favours values that preserve social cohesion such as national identity, national pride and patriotism in event hosting. This view is consistent with the study results, most of the respondents agree that attending an event at the stadium provides an opportunity to enjoy the beauty of the country. While

Johnson (2011: 21) agrees that civil pride and prestige as examples of indirect benefits of hosting mega events can unite a once divided city or country as they offer common interest. The author refutes that the intangible core benefits that are immeasurable such as prestige and pride do not necessarily provide justification for the use of public purse.

The study findings also confirm the assertion that facilities for disabled spectators, parking, safety, cleanliness, maintenance, transport, directional signage, long queues all contribute to spectator experience. The biggest percentage of the respondents agreed that facilities for disabled spectators are important when visiting the world cup stadium. Equally, most of the respondents raised serious concerns about standing in long queues when attending an event at the world cup stadium. According to Gonzalez (2011:01) services such as parking, security, food and beverages contribute to memorable stadium experience as something that appeals, gives good impression, and has a feel good effect. On the other hand some respondents mentioned legroom, visibility of assisting personnel, shorter queues, proximity to other amenities, cleanliness and safety as important to spectator experience when attending the event in the world cup stadium.

The UEFA Guide (2014:62) recommends that in addressing safety in stadia, consideration needs to be given to disabled spectators, given that they have special needs. Comfort, access, safety, parking, multi-purpose nature of the asset, cleanliness, diverse offerings are some of the attributes cited by respondents as key in contributing towards repeated stadium visits. Consequently, enhancing the value of the asset and sustaining positive stadium image. In support of this view, Melrose, Hampton and Manu (2011:2205) identifies safety risks with standing spectators in seated areas as they may fall over a seat or may obstruct the access for emergency services. In addressing matters relating to safety in stadiums, the FIFA Safety Regulations (2008:06) states that the stadium maximum safe capacity must always be observed and complied with.

Consistent with literature, most respondents cite accessibility to transport, parking, security, access, physical comfort, concessioners, pitch view and egress as integral attributes that add to stadium experience. According to the most responses food and beverages concessions are not only an important source of revenue but are also an equally vital part of match-day stadium experience. Majority of the responses confirm the expectation of food and beverages being sold at the stadium. This assertion is supported by Veeraraghavan and Vaidyanathan (2012:49). The researchers admit that there are several factors that influence the value experienced by spectators attending the event, such as seat location, event popularity and other customer related attributes. Likewise, most respondents agree that

events with international personalities have capability to bring spectators to the world cup stadium.

Gonzalez (2011:16) proposes a concept of “holistic solutions” to stadium experience. Gonzalez (2011) insists that holistic solutions could assist to attract spectators and increase in revenue generated from the stadium. Accordingly, failure to provide the total stadium experience may result in constant decrease in spectator numbers. This view is shared by stadia sector experts and policy makers. The experts felt that if the numbers are low it devalues the asset. Accordingly, spectator numbers are a vote of confidence in the infrastructure and its capabilities. In addition to this assertion a number of respondents agree that spectator numbers are a good measure of whether people are enjoying the asset or not. Some experts identified access to the facility as the most crucial element in drawing people to the stadium, while other experts felt that it is the multipurpose nature of the world cup stadia that contribute to stadium visits. In comparison to traditional stadiums, most participants agreed that modern world cup stadiums are multi-dimensional and the multi-purpose nature of these assets contribute to spectator experience.

In accordance with the demands of the modern stadiums, the largest percentage of the respondents’ responses strongly agrees that free Wi-Fi at the stadium offer positive experience. Leibovitz (2016:03) reasons that stadium Wi-Fi is not just about technology, rather is about fan experience, failure to provide Wi-Fi is costly. The concept of “Wi-Fi access for all” is promoted by Yates (2012:01) as modern stadiums need to deliver complete experience for spectators with smart phones. The total stadium experience as advocated by Gonzalez (2011:16) includes a clear pitch view and sightlines. Most of the respondents agree with this view, respondents concur that a clear pitch view is essential in a world cup stadium. The Seat Value Index developed by Veeraraghavan and Vaidyanathan (2012:49) for stadium/theatre which quantifies seat value perceived by customers in relation to seat location relative to stage or field has added value in the quality of spectator’s expectation of the sightlines. Similarly, UEFA and FIFA have developed a C-value for football spectators. The C value is defined as a variable that defines the quality of the spectator’s line of vision over the head of the person in front, known as the “sightline”. The higher the C-value more clearer is the sightline and better the pitch view (UEFA Stadium Guide 2011:52).

This study concludes that as difficult as it is at times to measure non financial benefits of infrastructural investment in stadia, the benefits outweigh the costs. While some key stakeholders expressed a concern about the costs of building world cup stadiums. This view is not shared by most respondents. Even though there is an acknowledgment that there are

different views on the costs of building world cup stadiums given competing social needs. Most respondents do not see these facilities as an exercise of expenditure, rather as an exercise of redress and exposing to the world the best a country may have. There is consensus in literature that intangible benefits associated with infrastructural investment in stadia are difficult to measure. These include; social cohesion, image, enhancement in national pride, national team's performance, prestige, nation building, spectator experience, stadium visits, spectator numbers, comfort, atmosphere, feel good factor, fan happiness, patriotism, enhanced international reputation, unity, civic pride, renewed community spirits, ambiance and source of inspiration (Allmers and Maennig 2009:509; Burton 2003:35; Heisy 2009:02 and Humphrey and Fraser 2015:04).

Heisy (2009:05) argues that beyond hosting a global event communities receive the intangible benefits of pride, unity and celebration. Heisy (2009: 06) continues to identify other intangible benefits that may be important to the residents and officials of host cities, these include building the city's brand through an improved image of the city as a tourist destination or global centre of commerce, increased motivation for residents to become active in athletic pursuits thus reducing health care costs, increased awareness and understanding of other cultures and of the issues regarding people with disabilities and the value of adaptive sport. Similarly, the respondents' responses agreed that image of the stadium increases spectator numbers while some participants agreed that the iconic landmarks like a world cup stadium building can position a city as a tourist attraction.

On the other hand, Lee, Cornwell and Babiak (2012:97) identify social cohesion and national pride as one of the key novelty and intangible values derived from mega event investment. This view is shared by stadia experts and policy makers, some respondents concurred about the capability of a stadium in bringing social inclusion and the power of the infrastructure to unite people. Likewise, respondents' responses agreed that attending an event at the world cup stadium makes them proud and evoke a sense of belonging. Pirsl and Lukac-Zoranic (2012:97) insist that the understanding that elite sports events and national accomplishment promote social cohesion, national pride and international prestige constitute the main drivers for host cities to have the appetite to invest sport related infrastructure. In an environment like South Africa, de Argoa (2015:14) asserts that a country that experienced apartheid for many years, hosting a football world cup can potentially be beneficial in promoting national unity and pride. Expanding on the same logic, a respondent commented that in the case of South Africa, the event is a catalyst. If there was no football world cup the country would not have built world cup stadiums. Therefore, events are somehow drivers and turn to accelerate national plans.

Alllmers and Maennig (2009:509) suggest that novelty value is a combination of comfort, number of visits to stadia subsequent to the world cup, spectator numbers, image effect and feel good effect. Similarly, respondents agreed that physical comfort is important when attending an event at the stadium. Respondents also registered strong views on availability of Wi-Fi, safety, cleanliness and maintenance as impotent attributes that add value to spectator experience.

5.5 Conclusion on the second research objective: Drivers of novelty value derived from stadia infrastructure investment.

Allied to the study objective to determine the drivers of novelty value, this study's chief aim has been to to provide a scientific valid index (tool) to measure novelty value derived from stadia infrastructural investment. This work concludes that novelty value is driven by three constructs: (1) spectator experience, (2) novelty continuance, and (3) modernity. Factor analysis generated these three dimensions and when each dimension was tested for reliability and internal consistency, spectator experience had the largest Cronbach alpha value (0.845) as well as the largest Eigen value (6.9); and was explained by a highest amount of variance (20.8). Novelty continuance and the modernity constructs had Eigen values of 2.3 and 1.8 respectively. Even though Cronbach alpha was found to be on the low side for the novelty value and modernity constructs, the overall internal consistency of the Novelty value index (V-index) is high (0.8 Cronbach alpha).

5.6 Contribution to Knowledge

There two key areas of knowledge contribution afforded by this study: Firstly, There is scholarly consensus in literature that studies in novelty value of infrastructural investment in stadia are largely biased towards economic impact. This study contributes towards an effort directed at studies that investigate non-financial benefits associated with stadia investment. Literature review and primary data from policy makers and stadia sector expects as well as stadium patrons has managed to identify the key concepts and variables that define novelty value framework. The study presents definitions, arguments and approaches taken by different scholars and study participants around concepts related to novelty value. The study also incorporates definitions and arguments related to stadia attributes which contribute to stadium spectator experience. Researchers stand to benefit from the insight provided in this study for further investigation. Secondly, the variables and dimensions that have emerged from literature and primary data have assisted to construct a reliable novelty value index

value index (V-index). The study for the first time provides a scientific valid index to measure novelty value derived from stadia infrastructural investment.

5.7 Implications of the findings to practice and recommendation

Bidding cities and host countries often seek reasons to justify their infrastructural investment in stadia to host mega sporting events. This study provides a new perspective in assessing the benefits associated with events hosting. This study will assist policy makers and governments in developing and improving bidding strategies. International sport federations are afforded an opportunity to improve bidding and hosting requirements. The tool (V-index) can be integrated into candidature files for bidding cities and countries. The lobby groups can also benefit by using the tool (V-index) to measure benefits for hosting cities and as a bases for engagements in assessing potential benefits.

Recommendations:

1. It is largely accepted that it is inexpensive to carry out periodic preventative maintenance than to do repairs when infrastructure breaks down. Cities and governments are urged to continuously make adequate budget provisions for capital maintenance and upkeep. Capital maintenance in this case include: planned maintenance, repairs, renewal, refurbishment as well as provision for infrastructure replacement.

2. A sophisticated understanding and greater insight into the spectator needs is required. Therefore, it is recommended that stadium managers and operators conduct continuous analysis to identify gaps and improve levels of service. Improved and diversified quality service will positively impact on stadium visits and increase spectator numbers.

3. It is further recommended that International Sport Federations revisit bid evaluation models. The criterion to award bids must not only be limited to political, financial and technical requirements. Consideration should be given to methodologies that scientifically measure and monitor intangible values and benefits derived from mega sport event hosting.

5.8 Study limitations and avenues for further research

Limitations that need to be noted for this study is limited applicability in representing the national/international perspective as the study focus is in Durban. Even though there were

participants interviewed outside of the region, however the environments and particularly stadium designs and levels of commercialisation of world cup stadiums are not the same. Further research taking a broad international approach may be required to sharpen the tool (V-index). Collecting data from multiple cities and countries may require multiple studies.

The study takes place eight years after the world cup stadiums were build. This period is beyond a seven year novelty period suggested by Allemers and Maennig (2009:35). It may be a good idea to test the tool soon after the completion of the stadia infrastructural investment and again beyond the “novelty” period.

It may be beneficial to conduct specific studies that focus in each of the variables that have emerged out of this study. The survey to collect data was limited to non-bowl events, stadium attractions and stadium visits. During the period of research there was no bowl event hosted at the stadium. This may have inflated the patrons’ responses given the calm and relaxed nature of the non bowl events and stadium attractions compared to bowl events. It may be beneficial in future to compare responses of bowl events and non bowl events populations and then compare the two.

6. References

Allen-Meares, P. 1985. Content analysis: It does have a place in social research. *Journal of Social Service Research,* 7(4): 51-68. DOI:10.1300/j079v07n04_04 (Accessed: 04 February 2017).

Allmers, S. and Maenning, W. 2008. South Africa 2010: Economic scope and limits. University of Hamburg.

Allmers, S. and Maenning, W. 2009. Economic impacts of the FIFA soccer world cups in France 1998, Germany 2006, and outlook for South Africa 2010. *Eastern Economic Journal*, 35 (4): 500 – 519. Available: D01:10:1057/eej.2009.30 (Accessed 24 August 2016).

Alm, J. 2012. World stadium index: Stadiums built for major sporting events – bright future or future burden? *Danish Institute for Sports Studies*: 01 – 117.

Anholt, S. 2013. Beyond the Nation Brand: The role of image and identity in international relations. *Exchange: The Journal of Public Diplomacy,* 2(1): 01-07.

Atkinson, G. and Mourato, S. 2008. Quantifying the "un-quantifiable": Valuing the intangible impacts of hosting the summer Olympic games. *The London School of Economics and Politics.* London.

Avraham, E. 2014. Hosting events as a tool for restoring destination image. *International Journal of Event Management Research,* 8(1): 62-75.

Baade, R.A. 1994. Stadium, professional sports, and economic development: assessing the reality. *Heartland Policy Study*: 02 – 38.

Baade, R.A. and Matheson, V.A. 2004. Mega-sporting events in developing nations: Playing the way to prosperity? Williams College.

Barclay, J. 2009. Predicting the costs and benefits of mega-sporting events: Misjudgement of Olympic proportions. *Institute of Economic Affairs,* Blackwell Publishing Oxford: 62 -67.

Baumann, R. and Matheson. V. 2013. Infrastructure investments and mega-sports events: comparing the experience of developing and industrialized countries. *College of the Holy Cross, Department of Economics Faculty Research Series,* Paper No. 13(5): 03-36.

Bohlmann, H.R. and van Heerden, J.H. 2005. The impact of hosting a major sport event on the South African economy. University of Pretoria.

Burke, M. and Evens, R. 2009. Public transport access to proposed stadium sites. *Proceedings of the Eastern Asia Society for Transportation Studies,* Vol. 7.

Burton, R. 2003. Olympic games host city marketing: An exploration of expectations and outcomes. *Sport Marketing Quarterly*, 12 (1): 35-45.

Carlile, P.R. and Lakhani, K.R. 2011. Innovation and the challenge of novelty: The novelty-confirmation cycle in software and science. Harvard Business School.

Chappelet, J. 2012. Mega sporting event legacies: A multifaceted concept. *Papeles de Europa,* 25: 76-86. Available:DOI: http://dx.doi.org/10.5209/rev_PADE.2012.n25.41096 (Accessed 27 August 2016).

Coalter, F., Allison, M. and Taylor, J. 2000. The role of sport in regenerating deprived areas. *The Scottish Executive Central Research Unit*, University of Edinburgh.

Coates, D and Humphrey, B.R. 2003. Novelty effects of new facilities on attendance at professional sporting events. VMBC Economic Department: 03 – 10.

Cookley, J. and Souza, D.L. 2013. Sport mega-events: Can legacies and development be equitable and sustainable? *Motriz, Rio Claro,*19(3).

Creswell, J. W. 2008. *Research design: qualitative, quantitative, and mixed methods approach.* London: SAGE.

Crotty, M. 1998. *The foundations of social research.* London: SAGE.

de Aragao, M. M. 2015. Economic impacts of the FIFA world cup in developing countries. Western Michigan University.

De Lisle, J. 2011. The benefits and challenges of mixed methods and methodologies: Lessons learnt from implementing qualitatively led mixed methods research designs in Trinidad and Tobago. *Caribbean Curriculum*, Vol. 8: 87-120.

Del Rio Olivares, M.J. 2013. Measuring value drivers of e-business – An empirical study. Aalto University.

Demir, A.Z., Elioz M., Cebi, M. and Yamak, B. 2015. The economic development and tourism effects of the Olympics. *Anthropologist,* 19(3): 811-817.

Department for Culture, Media and Sport (United Kingdom). 2013. *Report: Post games evaluation of the impact of the London 2012 Olympic games and Paralympics games.* United Kingdom: Grant Thornton.

Department of Sport and Recreation (South Africa). 2010. *Safety at Sports Events Act 2 of 2010.* Government Gazette 34377: 27 May.

Department of Sport and Recreation (South Africa). 2013. *2010 FIFA World Cup country Report.* Pretoria: Government Printer.

Drejer, I. 2004. ‘’Identifying innovation in surveys of services: a Schumpeterian perspective’’. *Research Policy,* 33(3): 551 – 5562.

Driscoll, D. L., Appiah-Yeboah, A., Salib, P. and Rubert, D.J. 2007. Merging of qualitative and quantitative data in mixed methods research: How to and why not. University of Nebraska, 3(1): 19-28

du Plessis, S. And Venter, C. 2010. The home team scores! A first assessment of the economic impact of world cup 2010. University of Stellenbosch.

Durban 2022. 2015*. Durban 2022 Commonwealth games candidate file.* Durban: Bid Committee.

Durban Host City. 2016. *Durban 2022 Commonwealth games economic impact report 2016:* South Africa: Ernest and Young.

Edensor, T. 2013. Producing atmosphere at the match: Fan cultures, commercialisation and mood management in English football. *Emotion Space and Society,* 1-8. DOI:10.1016/j.emospa.2013.12.010 (Accessed 8 August 2016).

Elliot, D. and Smith D. 1993. Football stadia disasters in the United Kingdom: learning from tragedy? *Industrial and Environmental Crisis Quarterly*, 7(3):205-217.

Essex, S. and Chalkley, B. 2003. Urban transformation from hosting the Olympic Games. *Centre d'Estudis Olímpics (U International Chair in Olympism (IOC-UABAB),* Barcelona: 03-19.

Etikan, I., Musa, S. A. and Akassim, R. S. 2016. Comparison of convenience sampling and purposive sampling. *America Journal of Theoretical and Applied Statistics*, 5(1): 1 – 4. Available: DOI: 10.11648/j.ajtas.20160501.11 (Accessed 29 March 2017).

European Football Association (UEFA) guide to quality stadiums. 2011. UEFA: Switzerland

Evans, M. D. R. and Kelly, J. National pride in the developed world: survey data from 24 nations. *International Journal of Public Opinion Research,* 14(3):954-2892.

Feddersen, A. and Maenning, W. 2007. Arenas vs multifunctional stadia – which do spectators prefer? University of Hamburg.

Federation of International Football Association (FIFA). 2008. *Safety Regulations*. Zurich.

Federation of International Football Association (FIFA). 2012. *The Stadium Safety and Security Regulations*. Tokyo

Ferrara, G. 2015. How to re-image a city: The interrelationship between sport event and destination image. *American Journal of Social Science Research,* 1(4): 238-243.

Florek, M. 2009. Allies or rivals? Shaping images of co-host countries via common mega event. The case of Poland and Ukraine. *Economics and Sociology*, 2(2):23-32.

Florek, M. and Breitbarth, T. 2008. Mega sports events and host country image: The case of the 2006 FIFA world cup. Poznan University of Economics.

Fourie, J. and Santana-Gallego, M. 2010. The impact of mega-sport events on tourist arrivals. University of Stellenbosch.

Franzosi, R.P. 2009. *The handbook of data analysis*. In: Hardy, M.and Bryman, A. London: SAGE.

Galloway, G. 2017. Durban stripped of 2022 commonwealth games. *Mercury,*14 March: 01.

Gershman, S.J. and Niv, Y. 2015. Novelty and inactive generalization in human reinforcement learning. *Topics in Cognitive Science*, 7 (3): 391 – 415.

Gibson, H.J., Qi, C.X. and Zhang, J. 2008. Destination image and intent to visit China and the 2008 Beijing Olympic games. *Journal of Sport Management,*22: 427-450.

Gonzalez, D. and Svensson, O. 2011. Stadium experience: A qualitative study about the experience economy in the Swedish allsvenskan. Linnaeus University.

Gratton, C., Shibli, S. and Coleman, R. 2006. The economic impact of major sports events: a review of ten events in the UK. *The Editorial Board of the Sociological Review.* Oxford: 41-58.

Gripsrud, G. and Nes, E. B. 2010 Effects of hosting a mega-sport event on country image. *Event Management,* 14(3): 193 -204.

Grix, J. and Lee, D. 2013. Soft power, sports mega-events and merging states: The lure of the politics of attraction. *Centre for Rising Powers: Department of Politics and International Studies*, University of Cambridge.

Groothuis, P.A. and Rotthoff, K.W. 2014. The economic impact and civic pride of sports teams and mega-events: Do the public and professionals agree?. Applachian State University.

Gumede, M., Mazibuko, V. and Msweli, P. 2017. Commonwealth games: can Africa afford the games. *Public and Municipal Finance,* 6(1): 57 – 62.

Hair, J.F. Anderson, R. E. Tatham R. L. and Black, W.C. 1998. *Multivarite data analysis: A global Perspective.* New York: Pearson.

Hall, C.M. 2006. Urban entrepreneurship, corporate interests and sports mega-events: the thin policies of competitiveness within the hard outcomes of neoliberalism. *The Editorial Board of the Sociological Review*: 59 – 70.

Harrison, S. and Campbel, Jr. 1999. Professional sports and urban development: A brief review of issues and studies. *The Review of Regional Studies*, 29(3):272 – 292.

Heisey, K.C. 2009. Estimating the intangible benefits of hosting the 2016 Olympic and Paralympics games for potential bid cities: Berlin, Chicago and San Fransisco. State University of New York.

Humphrey, L. And Fraser, G. 2015. 2010 World cup stadia investment: does the post-event usage justify the expenditure?. Rhodes University.

Jasina, J. And Rotthoff, K. 2008. The impact of a professional sports franchise on country employment and wages. *International Journal of Sport Finance*, 3(4): 01 – 25.

Johnson, G. 2011. The economic impact of new stadiums and arenas on cities. *University of Denver Sports and Entertainment Law Journal:* 03 – 40.

Kim, S.S., Gursoy, D. and Lee, S.B. 2006. The impact of the 2002 FIFA World Cup: The case of Seoul as a host city. *Tourism Management,* 26: 25 -38.

Knott, B., Swart, K. and Visser, S. 2015. The impact of sport mega-events on the quality of life for host city residents: reflections on the 2010 FIFA World Cup. *African Journal of Hospitality, Tourism and Leisure,* 4(0): 1 -16.

Koehler, P. 2012. Why do some stadium development projects succeed where others fail? An analysis using macro-level trends in stadiums. Colgate University.

Kosmaczewska, J. and Czarnecki, R. 2013. The role of a host country image and mega-event's experience for revisit intention: The case of Poland. Available: http://dx.doi.org/10.2139/ssrn.2586145 (accessed 20 August 2016).

KPMG, 2016. *Assessing the value of infrastructure investment.* Austrlia: KPMG International.

Krabbenbos, T. 2013. Commercialization strategies in football. University of Twente.

Larissa, D. 2010. Sport and economic regeneration: a winning combination? *Sport in Society*, 13(10).

Lee, S.P., Cornwell,T. B., and Babiak, K. M. 2012. Measuring and levering the contribution of sport to business and society. University of Michigan.

Lee, T.H. and Crompton, J. 1992. Measuring novelty seeking in tourism. *Annals of Tourism Research,* 19(0): 732 – 751.

Leibovitz, M. 2016. Controlling unknown with actionable Wi-Fi analytics. New Orleans: Extreme Networks.

Leonhardt, P. 2013. Wireless at the ‘’connected games’’: How the London 2012 olympic and paralympic games utilized the latest Wi-Fi technology. *Journal of Telecommunications and Information Technology,* 1/2013: 5 – 10.

Li, X. and Croft, W.B. 2004. An answer updating approach to novelty detection. University of Massachusetts.

Litman, T. 2016. Evaluating public transit benefits and costs. *Victoria Transport Policy Institute.* Victoria: Canada.

Liu, Y. 2013. Assessing the long-term economic impact of the world cup as mega-sport event. *PIT Journal,* Available: http://pitjournal.unc.edu/cycles/cycle-4-2013 (Accessed 21 2016).

Luiz, J. and Fadal, R. 2010. An economic analysis of sports performance in Africa. University of Witwatersrand.

Maloy, B.P. 1991. Planning for effective risk management: A guide for stadium and arena management. *Marquette Sports Law Review*, 2(5): 89 –101.

Melrose, A., Hampton, P. and Manu, P. 2011. Safety at sports stadia. *Science Direct,* 14 (2011): 2205-2211.

Miles, M. B. and Hurberman, A. M. 1994. *Qualitative data analysis*. 2nd ed. London: Sage

Ministry of Sports of Azerbaijan. 2015. *How to promote the social sustainability of major sports events,* Baku: Council of Europe.

Msweli, P. 2017. Factor analysis (lecture notes). Masters and PHD. class. Durban University of Technology, 03 January 2017.

Ngoepe, B.M. 2002*. Commission of inquiry into the Ellis Park stadium soccer disaster of 11 April 2001.* Pretoria: High Court.

Nieto, M.R. and Santamaría, L. 2005. Novelty of product innovation: The role of different networks. Carlos the 3rd University of Madrid.

Owen, J.G. 2006. The intangible benefits of sports teams. *Public Finance and Management*, 6(3): 321 – 345.

Palinkas, L., Horwitz, S., Green, C., Wisdom, J., Duan, N., and Hoagwood, K. 2015. Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. *Administration and Policy In Mental Health and Mental Health Services Research*, 42(5): 533-544. Available: doi:10.1007/s10488-013-0528-y (Accessed 10 January 2017).

Palys, T. 2008. Purposive sampling. In: Given, L.M. ed. *The Sage Encyclopaedia of Qualitative Research Methods.* Los Angeles: Sage, 697-698.

Paramio, J.L., Buraimo, B. and Compos, C. 2008. From modern to postmodern: The development of football stadia in Europe. *Sport in Society,* 11(5):517-534.

Pigliucci, M. 2008. What, if anything, is an evolutionary. *Philosophy of Science,* 887 – 898.

Pirsl, D. And Lukac-Zoranic, A. 2014. National identity and athletes' success pride internationally – a review. *International Journal of Science and Research*, 3(5):97-101.

Preuss, H. 2011. Lasting effect of major sporting events. *Institute of Sport Science:* 12-13.

PricewaterhouseCoopers (PwC). 2011. *Game on: Mega-events infrastructure opportunities*. United Kingdom: PwC.

Santo, C. 2005. The economic impact of sports stadiums: Recasting the analysis in context. *Journal of Urban Affairs*, 27(2): 177 – 191.

Shanaron, J.J. 2014. Technology and economic impacts of mega-sports events: A key issue? Exploratory insights from literature. *Megatrend Review,* 11(4):9-30.

Sieverdingbeck, K. 2014. Mega sporting events and sustainability. *''Moving the goal posts'' conference,* BMZ. June 2014. Brazil: Salvador da Bahia.

Solberg, H. A. and Preuss, H. 2007. Major sport events and long-term tourism impacts *Journal of Sport Management*, 21: 213-234.

Susiaho, S. 2015. Stadium Wi-Fi. Brighton: Ruckus.

Taylor, T. and Lee, Y. 2005.The impact of mega-events on destination image. *International Journal of Hospitality & Tourism Administration, 6(3)*: 27-45. Available: DOI: 10.1300/J149v06n03_03

The Football Stadia Improvement Fund and Football Licensing Authority. 2003. *Accessible Stadia*, London.

The Organisation for Economic Co-operation and Development (OECD). 2010. *Local development benefits from staging global events: Achieving the local development legacy report 2012.* United Kingdom: OECD.

Tourism and Transport Forum (Australia). 2011. *Position Paper: Accessing Major Events.* Australia.

Turban, E. 2008. Structure and components of the e-commerce business model. Available:http://wps.prenhall.com/wps/media/objects/5073/5195381/pdf/Turban_Online_AppB.pdf (Accessed December 2016).

Union of European Football Associations (UEFA). 2011. *Guide to quality stadiums,* Switzerland. Available: EUFA.com (accessed 8 August 2016.

Valente Jr., A. S. and Tur, J. N. 2013. Mega sporting events and legacy: The case of the 2014 world cup. University of Valencia.

van Bennekom, L. 2014. Aligning destination image, sport event image and image fit: An exploration of the interrelationship between cognitive and affective images among spectators of Dutch running events. University of Utrecht.

van der Merwe, J. 2007. Political analysis of South Africa's hosting of the rugby and cricket world cups: Lessons for the 2010 football world cup and beyond? *South African Journal of Political Studies,* 34(1): 67 – 81.

Vargas, S. and Castells, P. 2011. Rank and relevance in novelty and diversity metrics for recommender systems. Universidad Autonoma de Madrid.

Varrel, A. and Kennedy, L. 2011. Mega-events and megaprojects. *Policy Brief,* European Commission: Germany.

Veeraraghavan, S. and Vaidyanathan, R. 2012. Measuring seat value in stadiums and theatres. *Production and Operations Management,* 21(1): 49-68, Available: DOI:10.1111/j.1937-5956.2011.01429.x (Accessed 8 August 2016).

Visser, S. D. 2015. The socio-cultural impact of the 2010 FIFA world cup on Cape Town residents. Cape Peninsula University of Technology.

Wilhelm, S. 2011. Public Funding of sports stadiums. Centre for Public Policy and Administration, The University of Utah.

Willsallen, S. 2004. Subjective audio and quality specific to sporting stadia. University of Sydney.

World Economic Forum. 2014. *Infrastructure investment policy blue print*. Geneva: World Economic Forum.

Yates, C. 2012. Wi-Fi for all in stadiums. Australia: Aruba Networks.

Yao, J. 2010. The effect of hosting the Olympics on national image: An analysis of US newspaper coverage of host countries with reputation problems. Iowa State University.

Zhang, L. 2012. The definition of novelty in recommendation system. *Journal of Engineering Science and Technology Review,* 6(3): 141 – 145.

Zimbalist, A. 2013. Sports facilities and economic development. *Government Finance Review*: 94 – 96.

Zimmerman, T. and Turner, L. 2011. Tourism and transport forum. Australia: TTF.

Zott, C. Amit, R. and Massa, L. 2010. The business model: Theoretical roots, recent developments, and future research. Available: http:/www.iese.edu/research/pdfs/DI-0862-E.pdf (Accessed 9 August 2016).

7. ANNEXURES

7.1 Interview Questions

Interview questions based on a study which seek to provide a scientific valid index (tool) to measure non financial value derived from stadia infrastructural investment

Social Cohesion

Social cohesion is defined as the degree of social integration and inclusion in communities and society at large, and the extent to which mutual solidarity finds expression among individuals and communities.

1. What is your opinion about the capability of a stadium in contributing to social cohesion?

Ambiance/ Atmosphere

2. What are your views about the comfort and ambiance of Moses Mabhida Stadium?

Image

3. In your view, what value does stadium infrastructure investment add to the image of the City?

National Pride

4. In your opinion do you think the investment in stadia infrastructure added value to national pride?

Spectator numbers

5. How are spectator numbers contributing to the value of the asset?

Number of visits in the stadium

6. Which aspect of stadia do you think contribute to stadia visit?

Other

7. What are other non financial factors that contribute to stadia value?

7.2 Questionnaire

NOVELTY VALUE QUESTIONNAIRE

Respondents Demographic Details

1. Gender	Male	1
	Female	2
2. Age	15-24 years	1
	25-34 years	2
	35-49 Years	3
	50-64 Years	4
	65+	5
3. Race	Black	1
	Coloured	2
	Indian	3
	White	4
	Other (Specify)……..	12
4. What is your highest level of education?	No schooling	1
	Primary School	2
	High School	3
	Matric /Grade 12	4
	Diploma	5
	Degree	6
	Post Graduate	7
5. Marital Status	Married	1

	Single	2
	Co-habitating	3
	Separated	4
	Divorced	5
	Widow/widower	6
6. Employment Status	Unemployed	1
	Employed	4
	Self-employed	5
	Pensioner	7
	Student	8

Please indicate the extent to which you agree or disagree with the following statements by selecting the appropriate box

Ambiance

1. The vibrant ambiance of the stadium is what attracts guests

Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	2	3	4	5

2. I am satisfied with the ambiance and atmosphere of the stadium

Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	2	3	4	5

Comfort

1. Physical comfort is not really important to me when I go to a stadium

Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	2	3	4	5

2. Safety contributes to the feeling of comfort when attending an event at the World Cup stadium

Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	2	3	4	5

Social Cohesion

1. Being at the stadium invokes a positive sense of belonging

Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	2	3	4	5

2. Attending an event at the World Cup stadium gives me an opportunity to enjoy the beauty of my country

Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	2	3	4	5

3. Attending an event at the World Cup stadium makes me feel proud to be South African

	Disagree	Not Sure	Agree	Strongly Agree
1	2	3	4	5

Image

1. The iconic nature of the stadium contributes to the image of the World Cup stadium

Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	2	3	4	5

2. Frequency of events at the World Cup stadium contribute to the image effect

Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	2	3	4	5

3. Access to free Wi-Fi at the stadium offer positive stadium experience

Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	2	3	4	5

National Pride

1. Aesthetic view of the World Cup stadium contributes to national pride

Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	2	3	4	5

2. Geographic location of the stadium is critical to national pride

Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	2	3	4	5

3. The size of the World Cup stadium enhances national pride

Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	2	3	4	5

Visit to the stadium

1. Multipurpose nature of the World Cup stadium contributes to stadium visits

Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	2	3	4	5

2. Access to public transport is key to visiting the World Cup stadium

Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	2	3	4	5

3. Spending time In the World Cup stadium bring about excitement.

Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	2	3	4	5

Spectator numbers

1. Hospitality capability has a positive effect to spectator numbers in the stadium

Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	2	3	4	5

2. Duration of the event has an impact on spectator numbers

Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	2	3	4	5

3. The image of the stadium increase spectator numbers

Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	2	3	4	5

4. When I visit the stadium I bring my family/loved ones along

Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	2	3	4	5

5. Events with famous international personalities are sure to bring me to the World Cup Stadium

Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	2	3	4	5

Nation Building

1. Social interaction in the World Cup stadium promotes nation building.

Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	2	3	4	5

2. The iconic landmark nature of a World Cup stadium contributes to nation building

Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	2	3	4	5

3. The commanding view and character of the World Cup stadium brings about dignity, humanity and sense of belonging.

Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	2	3	4	5

Spectator experience

1. Cleanliness has a positive effect to spectator experience in the stadium

Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	2	3	4	5

2. Duration of the event has an impact on spectator experience in the stadium

Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	2	3	4	5

3. Upkeep and maintenance is not important in the World Cup stadium.

Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	2	3	4	5

4. I don’t mind to stand in long queues when attending an event in the World Cup stadium.

Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	2	3	4	5

5. Facilities for disable spectators are not really important to me when I visit the World Cup stadium.

Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	2	3	4	5

6. A clearer pitch view is essential in a World Cup stadium .

Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	2	3	4	5

7. Directional signage (way-finding) is not important in a World Cup Stadium

Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	2	3	4	5

8. I expected food and beverages to be sold at the World Cup stadium.

Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	2	3	4	5

9. Parking is key when attending an event or visiting a World Cup stadium.

Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	2	3	4	5

7.3 Consent Letter

MOSES MABHIDA STADIUM DURBAN

44 Isaiah Ntshangase Rd, Durban, 4001 | Private Bag X2010, Greyville, 4023
t +27(0)31 582 8222 | f +27(0)86 531 4812 | w mmstadium.com

12 August 2016

DUT DURBAN UNIVERSITY OF TECHNOLOGY

P O Box 1334
Durban
4000

Dear Sir/Madam

This letter serves as notice that Vusi Phillip Mazibuko, a Masters student in the Faculty of Public Administration at the Durban University of Technology, has been granted permission to conduct his research study at the Moses Mabhida Stadium.

The research study is an assessment of the **Novelty value of the investment in World Cup Stadia**.

Should you have any queries please contact Dr Musa Gumede on 031 311 4635 or via e-mail at ***musa.gumede@durban.gov.za***.

Sincerely

Dr Musa Gumede
Deputy City Manager:
Community and Emergency Services

[redacted]