Developing a competitive strategy for green buildings in South Africa

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It all starts here ™

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ABSTRACT

Sustainable and environmental responsible initiatives play an important role in preserving and developing a country. Since awareness on sustainability is gaining traction within the market, an increasing amount of opportunities are manifesting itself and becoming apparent. This study aimed to provide a high-level road map in the form of a strategy to compete and gain future market share within the South African green building environment.

The Green Building Council of South Africa (GBCSA) has highlighted lower cost saving, increased asset values, enhanced marketability, reduced liability and risk, retaining major clients, responsible investing, increased productivity, attracting and retaining talent, minimising churn and environment saving as key benefits which inform the current key value proposition.

In developing the strategy, strategic vision and the strategic objectives are formulated. The strategic vision provides direction, responsibilities and overall targets. The strategic objectives will break the strategy into manageable portions with specific goals to achieve the vision. Porter's generic competitive type bas been one of the most influential strategic management concepts. The three generic competitive strategies are cost leadership, differentiation and focus. For the research data collection, experts were interviewed in the built environment using the Osterwalder Business Canvas as a tool. The Osterwalder Business Model is a conceptual tool that contains a set of elements and inter-relationships that explain the business logic of a specific organisation. The Osterwalder Business Model consists of nine blocks that are based on the four key deliverables, namely product, customer interface, infrastructure and financial aspects.

Eight participants were interviewed who operated and functioned in the built environment. An interview agenda was circulated prior to the interview to get the participants thinking in line with the objectives of the study.

The participants provided insight into the current status and the anticipated future of green buildings in South Africa. The results were tabled and drawn as per the nine key elements of the Osterwalder Business Canvas to evaluate the gap between the present and future, the opportunities were identified and a strategy developed.

Green buildings will be the norm and will be regulated by government. Buildings will be off the grid and self-sufficient with minimum external natural resource input. A big driver and contributor to green buildings will be education and awareness of the general public and clients. Continuous research, learning & development is required to stimulate innovation to solve root-cause problems. Integration and optimisation of the entire value chain is important to consider.

Buildings are to be carbon neutral and negative to be sustainable. The purpose of green buildings is to reduce and mitigate the negative impact on the environment and to build and operate environmentally sustainable products. There will be growth in fit-out of brown-field buildings waste management, water use, renewable energy. Corporates and developers are the key clients that require face to face and personal attention. The cost incurred is from Capex, Opex and salaries with the Revenue Streams being cost saving on utilities and selling skilled time of professionals. The situation is past the point of basing decisions on cost and the environment needs to be saved.

KEYWORDS AND ABBREVIATIONS

Key Words:

Competitive
Strategy
Green Buildings
Trend(s)
Osterwalder Business Canvas
Value Proposition
Activities
Resources
Customer Relationships
Customer Segments
Channels
Partners
Cost Structure
Revenue Streams

Abbreviations:

Capex – Capital Expenditure
GBCSA – Green Building Council of South Africa
IEQ – Indoor Environmental Quality
L&D – Learning and Development
Opex – Operating Expenditure
PM – Project Manager
QS – Quantity Surveyor
R&D – Research and Development
RSA – Republic of South Africa
SANS – South African National Standards
SLA – Service Level Agreement

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CHAPTER 1: NATURE AND SCOPE OF THE STUDY

1.1 INTRODUCTION

"Developing a competitive strategy for green buildings in South Africa."

South Africa is a developing country, growing and finding its fit in the global puzzle, importing and developing its own value proposition(s) to compete locally and internationally. The country has a magnitude of natural resources and has one of the largest economy's in Africa with the potential of strong economic growth (Country watch, 2015). South Africa's land size is 1,209,090 km2 with a population estimate of 49 million people, as determined in 2009. The South African Gross Domestic Product (GDP) in 2007 was $277,600 million, compared to Botswana at $11,800 million and the United States of America at $13,811,000 million. (Janse van Rensburg, McConnel, and Brue, 2015).

Green buildings are focused on environmentally friendly and responsible initiatives, to reduce the negative impact and enhance the positive impact on the environment. The central theme of green buildings is to be more sustainable, improve occupancy experience, overall performance and efficiency across the entire life cycle of the product, therefore improving sustainability from the cradle to the grave of the product (from creation to recycle or reuse). Green buildings are a fairly new way of constructing and using buildings. The Green Building Council of South Africa (GBCSA) was formed in 2007, providing a formalised structure to construct and operate green buildings. Technical performance criteria are the focus points. The GBCSA has adopted and changed the "green yard stick" from the Australians to suit the South African environment. (Green Star SA Accredited Professional Course, 2011)

The identified opportunity to compete in the green building market is to be actioned through a competitive strategy (the roadmap of actions). The idea must satisfy the following five anchors in order to be an opportunity (Spinelli, Adams, and Timmons, 2012):

- Create or add significant value to a customer.
- Fix a real problem.
- The need of the customer must outweigh the financial implication of exchanging money for the value proposition.
- The market must have robust margins and profitability.
- The resources must be realistic and fit with the opportunity requirements to create significant value.

Compete in an existing market among competitors or create a new market, compete with a value proposition that solves a customer's need(s); what attribute of your product/service sets you

apart from the rest? Why do customers buy your product/service? There are 3 (three) main competitive categories to target, namely cost, differentiation and niche:

- Cost–customer purchase decision is based on product/service cost.
- Differentiation–customer purchase decision is based on product/service attributes.
- Niche–customer purchase decision is based on product/service specific attributes applicable to the specific need.

(Hough, Thompson, and Gamble, 2010)

When competing, the focus should be on one of the strategies and not a mix between the strategies to increase the possibility of success. The focus should therefore be on the strategy with the best probability of success. In the case of sustainability, it is better to teach your customers to purchase goods based on differentiation. (Hough et al., 2010).

According to Jack Welch (former CEO, General Electric), “Strategy means making clear-cut choices about how to compete” (Hough et al., 2010) Strategy is management’s action plan for running a business and conducting operations. The strategy is there to focus management on creating value for new and existing customers, to grow the business and to improve performance (Hough et al., 2010).

Sustainable and environmental responsible initiatives play an important role in preserving and developing the country. Since awareness on sustainability is gaining traction within the market, an increasing amount of opportunities are manifesting itself and becoming apparent. This study aimed to provide a high-level road map in the form of a strategy to compete and gain future market share within the South African green building environment.

1.2 PROBLEM STATEMENT

Little research has been conducted on strategy in the green building market. The majority of research is focused on cost, achieving green buildings and coverage aspects of green buildings with the main focus on electrical energy consumption (Zuo & Zhao, 2014) If a strategy to compete in green buildings is formulated, it can be assumed (and should be investigated further) that entering and/or leading the green building market will render more clients from a consulting point of view and higher efficiently occupied buildings that generate more consistent revenue and improved asset selling value from a developer (building owner) point of view.

Green buildings are a fairly new way of constructing and using buildings. The GBCSA was formed in 2007, providing a formalised structure to construct and operate green buildings.

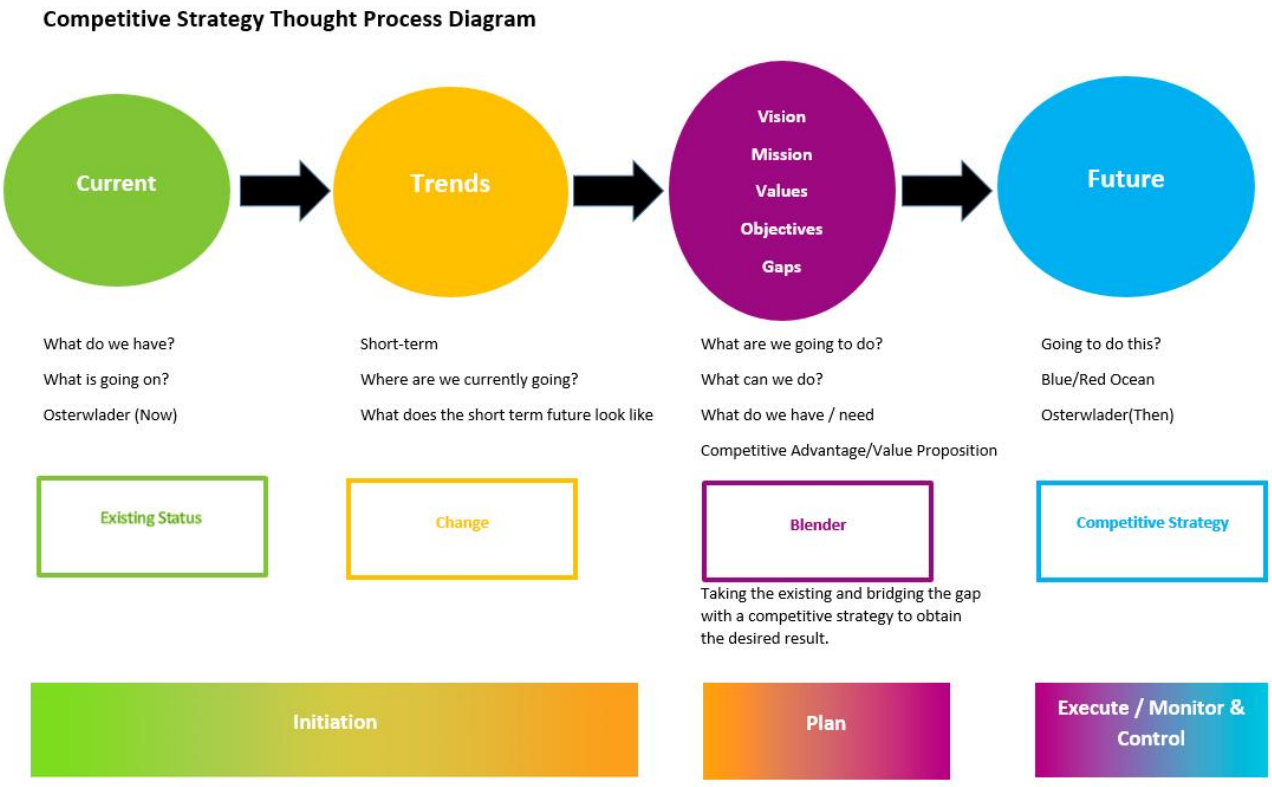
Technical performance criteria are the focus points. The GBCSA has adopted and changed the "green yard stick" from the Australians to suit the South African environment.

Conventional buildings are built in line with South African Building Standards and guidelines, as prescribed by the Engineering Professional Institution(s). Green buildings put emphasis and focus on being better and more sustainable than conventional buildings covering the categories as described in the paragraph above (Green Star SA Accredited Professional Course, 2011)

The competitive strategy is formulated by evaluating the current situation against the future. The strategy will be a guide to focus efforts on creating sustainable value. The tool that was implemented to gather data on both the current and future state was completed with the Osterwalder Business Canvas.

The author created a "competitive strategy thought process", as illustrated in Figure 1.1, as his own strategy process to conduct the study.

Figure 1.1: Competitive Strategy Thought Process Diagram



From the findings of this study, a high-level strategy is developed to compete within the South African green building market. In view of the problem statement in section 1.2, the research objectives can be determined for this study as per section 1.3 of this study.

1.3 RESEARCH OBJECTIVES

The research objectives for this study were divided into a primary objective and secondary objectives and set as follows:

1.3.1 Primary objective

The primary objective was to develop a competitive strategy for green buildings in South Africa.

1.3.2 Secondary objective

The following secondary objectives were devised as a means to address the primary objective:

- To determine the conceptualisation of the green building and strategy variables according to the literature.
- To determine the current status of green buildings.
- To determine the future of green buildings.
- To make recommendations for future research and practice.

1.4 SCOPE OF THE STUDY

1.4.1 Field of study

The field of study falls within the subject of strategic management. This section describes the field of study, industry demarcation and the geographical demarcation.

1.4.2 Industry declaration

The study was limited to green buildings in South Africa and more specifically those in the built environment, be it new built (green-fields) or old built (brown-fields).

1.4.3 Geographical demarcation

The areas for of the current green buildings that was considered in the study were scattered throughout South Africa.

1.5 RESEARCH METHODOLOGY

The study was conducted in two phases. Phase one consisted of a literature review and phase two an empirical research.

1.5.1 Literature review

The literature review for this study focused on the nature and strategy of green buildings, more specifically the following aspects:

- Defining green buildings.
- Defining strategy.
- Defining the Osterwalder Business Canvas to be used as a tool to gather data and focus the study findings.

The sources that informed and provided information in the literature review included the following:

- Books / Journals / Internet Resources (web pages) - defining green buildings; defining and explaining strategy, therefore defining the characteristics of a competitive strategy; defining the key elements within the Osterwalder Business Canvas.
- Experts in the Built Environment were consulted and interviewed on the current status and future of green buildings in South Africa. All interviews followed the same agenda for consistency and comparable finding analyses.

1.5.2 Empirical research

Empirical research primarily deals with the means of collecting data and to turn the data into usable information. The empirical research for the study consisted of the research design, sample design, research instrument, method of collecting the data and analysing the data.

1.5.2.1 Research design

A qualitative (anti-positivist) tradition research was followed. The researcher was the primary research instrument.

The descriptive research consisted of a cross-sectional design conducted in November 2016 which was executed by means of interviews to gather data on the current environment and anticipated/estimated future environment of green buildings in RSA.

The study attempted to develop a competitive strategy to be used as the basis for a business case for a start-up business or to expand an existing business.

1.5.2.2 Study population

The study population for this study consisted of individuals that operated and functioned in the built environment.

The sampling procedure(s) that was used was purposive/snow-ball sampling by the researcher, selecting individuals to participate in an interview to obtain data. The participants were requested at the end of the interview to nominate/suggest other individuals that can contribute to the study as part of the sample group. When sufficient individuals for the study (minimum - 5) were selected, interviews were conducted and the verbal data transformed into written data from which findings could be generated and a conclusion drawn.

1.5.2.3 Constructing the research instrument

The research instrument selected for this study was a structured interview (see Appendix A – "Interview Agenda" for the full interview agenda). The interview was structured with a set of discussion topics and questions which were adopted as agenda for the interview.

The interview consisted of two sections being the present and the future situation of green buildings in South Africa. The interview and agenda were structured and conducted in such a way not to influence the input of the interviewee but rather to provide context and asking probing questions to spark ideas and discussing the key topics to obtain his/her ideas/thoughts and insight into the investigation.

The items in the "Interview Agenda" were developed from the Osterwalder Business Canvas consisting of key elements. The Osterwalder Business Canvass was selected as a basis to provide structure and to make the investigation and evaluation more manageable and comparable within the sample group and to draw meaningful conclusions.

1.5.2.4 Collection of Data

Collecting the data was done as per the following process:

1. The participant was contacted in person or by phone to discuss the background of the study, the purpose of the study, the reason for selecting the participant for the interview and the role the participant would play in the study.
2. When the participant agreed to take part in the study, an email and a meeting request were sent to the participant with the agenda for the interview.
3. The interviewer and interviewee met and had an interview as per the agenda at a neutral and relaxed venue. If and when the opportunity arose to explore key points outside of the

agenda as per the discussion flow, the points were explored but the flow returned back to the agenda to provide structure to the interview. At the conclusion of the interview, the snowballing participant selection technique of selecting participants who could add value, was discussed with the interviewee. Eight individuals were interviewed at the conclusion of the interview process.

4. The interview session was noted and clarification obtained as and when required during the interview or at the conclusion of the interview. The notes of the interview were stored for record purposes and to accurately and correctly transfer the data obtained into a write-up after the interview.

1.5.2.5 Data Analysis

The researcher converted the notes of the interviews into the empirical research section of this study. Ideas, moments of genius, themes and recurring key words that could uncover patterns and trends on the current status and anticipated future of green buildings were also found. Finally, the key problems and/or needs that were required to be satisfied were recorded. Each of the key elements of the Osterwalder Business Canvas was evaluated and compared (current vs future). A comparison was drawn in both table and graphic format for interpretation and ease of use.

1.6 LIMITATIONS OF THE STUDY

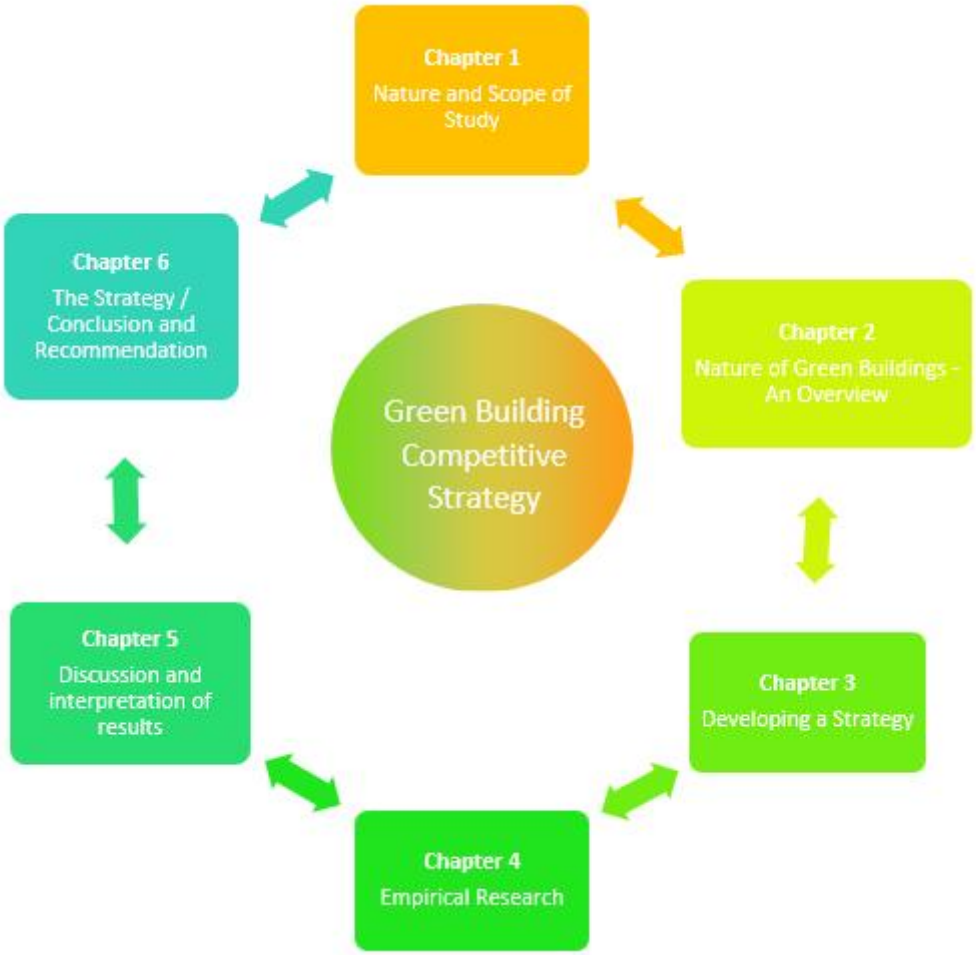
The study attempted to provide a foundation for a completive strategy to be furthered explored and detailed.

- The study was limited to data obtained for green buildings and trends in South Africa from the perspective of consultants.
- The study only provides a starting point for a detailed competitive strategy.
- The participants in the study included individuals who operated in the built environment within Gauteng South Africa which could skew the results by providing a similar point of view – i.e. it could be assumed that the participants might have had the same frame of reference since all were from the built environment within the same geographical area.
- The results were not statistically interrogated.

1.7 CHAPTER DIVISION

A brief outlay and description of the different sections to develop a competitive strategy for green buildings are set out below and graphically illustrated in Figure 1.2.

Figure 1.2: Graphical Representation of Chapter Outlay



Chapter 2: NATURE OF GREEN BUILDINGS – AN OVERVIEW

This chapter provides insight into the nature of green buildings, the current objectives of green buildings and the vision and mission are identified. This insight in green buildings within the South African context is critical in developing a competitive strategy.

Chapter 3: DEVELOPING A STRATEGY

This chapter provides the fundamentals in developing a completive strategy, highlighting the link between vision, mission and objectives. The Osterwalder Business Canvas was used as the tool to discover the gap between the existing and future state of green buildings.

Chapter 4: EMPERICAL RESEARCH

This chapter explains the business research process from the problem statement, creating the research design, selecting a research method, the procedure involved in selecting the sample group, collecting the data, analysing the data and transforming the data into usable information (the results).

Chapter 5: DISCUSSION & INTERPRETATION OF RESULTS

This chapter represents the results as generated through the empirical research, what the results implied and how the results unlocked and highlighted the key elements that governed the strategy in the next chapter.

Chapter 6: THE STRATEGY / CONCLUSION & RECOMMENDATION

The findings and results of the previous section are transferred and transformed into a strategy to compete in the green building RSA market. The strategic plan consists of the strategic vision and strategic objectives including the strategy. The objectives as per the off-set of the study are defined and validated against the results obtained through the research process. The chapter concludes with suggestions for future research.

CHAPTER 2: THE NATURE OF GREEN BUILDINGS – AN OVERVIEW

2.1 INTRODUCTION

The word “sustainability” and “green” are often interchanged to describe the same intended output which is more than just reducing the negative environmental impact. Green means creating a product that is environmentally responsible, healthy, productive, efficient, equitable and profitable. Green buildings pursues solutions that represent a healthy balance between environmental, social and economic benefits. (United States Green Building Council, 2016).

However, it is worth noting that not all green buildings are and need to be the same. Different countries and regions have a variety of characteristics such as distinctive climatic conditions, unique cultures, traditions, diverse building types and ages, as well as a wide ranging environmental, economic and social priorities. The differences in countires shape the approach to green building initivitves. (World Green Building Council, 2016).

Any building can be a green building, whether it’s a home, office, school, hospital, community centre, or any other type of structure, provided it includes the following features:

- Efficient use of energy, water and other resources
- Use of renewable energy, such as solar energy
- Pollution and waste reduction measures, and the enabling of re-use and recycling
- Good indoor environmental air quality
- Use of materials that are non-toxic, ethical and sustainable
- Consideration of the environment in design, construction and operation
- Consideration of the quality of life of occupants in design, construction and operation
- A design that enables adaptation to a changing environment

(World Green Building Council, 2016)

The benefits of green buildings can be grouped within three categories: environmental, economic and social. (World Green Building Council, 2016).

Environmental benefits to reduce negative impact on climate change and the natural environment. Green buildings use less water, energy and/or natural resources. In many cases green buildings have a positive impact on the environment (at the building or city scales) by generating their own energy and/or increasing biodiversity. (World Green Building Council, 2016). At a global level, the building sector has the largest potential for significantly reducing greenhouse gas emissions compared to other major emitting sectors. At a building level green buildings achieving the Green Star certification in Australia have been shown to produce 62%

fewer greenhouse gas emissions than average Australian buildings, and 51% less potable water than if they had been built to meet minimum industry requirements. Green buildings certified by the Indian Green Building Council (IGBC) results in energy savings of 40 - 50% and water savings of 20 - 30% compared to conventional buildings in India. Green buildings achieving the Green Star certification in South Africa have been shown to save on average between 30 - 40% energy and carbon emissions every year, and between 20 - 30% potable water every year, when compared to the industry norm. Green buildings achieving the LEED certification in the US and other countries have been shown to consume 25 per cent less energy and 11 per cent less water, than non-green buildings. (World Green Building Council, 2016).

Economic or financial benefits include cost savings on utility bills for tenants or households (through energy and water efficiency). Lower construction costs and higher property value for building developers; increased occupancy rates or operating costs for building owners; and job creation. At a country level Canada's green building industry generated $23.45 billion in GDP and represented nearly 300,000 full-time jobs in 2014 (Canada Green Building Council / The Delphi Group, 2016). (World Green Building Council, 2016). Building owners report that green buildings (whether new or renovated) achieved a 7 per cent increase in asset value over traditional buildings – (Dodge Data & Analytics, 2016). (World Green Building Council, 2016).

Social benefits are around the health and wellbeing of people who work in green offices or live in green homes. Workers in well-ventilated offices recorded a 101 per cent increase in cognitive scores (brain function) (Harvard T.H. Chan School of Public Health / Syracuse University Center of Excellence / SUNY Upstate Medical School, 2015.). Employees in offices with windows slept an average of 46 minutes more per night (American Academy of Sleep Medicine, 2013). Research suggests that better indoor air quality (low concentrations of CO_2 and pollutants, and high ventilation rates) can lead to improvements in performance of up to 8 per cent (Park and Yoon, 2011). (World Green Building Council, 2016).

South African Green buildings are energy efficient, resource efficient, and environmentally responsible which incorporates design, construction, and operational practices that significantly reduce or eliminate its negative impact on the environment and its occupants. Building green is the opportunity to use resources efficiently and address climate change while creating healthier and more productive environments for people to live and work in. (Green Star SA Accredited Professional Course, 2011) Green buildings initiatives are a mitigation action to reduce the negative impact of building outputs on the environment, economy and society. (Zuo & Zhao, 2014) Note: researchers from developed countries contributed the most to encourage green building research. (Darko & Chan, 2016), South Africa is considered a developing country. (Country watch, 2015)

2.2 OVERVIEW – SOUTH AFRICA

The green building council of South Africa implements and provided guidance on the following categories when providing education to individuals and evaluating green buildings to certify ratings for the different categories that affects and describes the look, feel and functionality of Green Buildings. The 9 categories are as follows (Green Star SA Accredited Professional Course, 2011):

1. Management

Through the management category, the GBCSA promotes the adoption of sound environmental principles from the inception, design and construction phases, to commissioning, tuning and operations of the building and its systems. Management initiatives may include engaging a professional with a thorough understanding of green building principles and Green Star SA; recycling, demolition and construction waste; managing construction activities to minimise pollution an d maximise soil and air quality protection; enhanced commissioning and tuning of buildings systems.

2. Indoor Environmental Quality

Through the IEQ category the GBCSA targets the wellbeing of the occupants. The credits address how the HVAC system, lighting, indoor air pollutants and some building attributes contribute to a good indoor environmental quality. Comfort factors addressed within this category are external views, individual climate control and noise levels. Health issues such as minimisation of indoor volatile organic compounds, asbestos and formaldehyde emissions as well as mould prevention are addressed in this category.

3. Energy

Through the energy category, the GBCSA targets an overall reduction in energy consumption. Such reduction has an impact on greenhouse gas and other emissions associated with energy generation from fossil fuels. Reduction sin energy consumption can be achieved through more efficient use of energy in buildings. Reduction sin emission san capacity may also be achieved through generation of energy alternative sources.

4. Transport

Through the transport category, the GBCSA promotes the reduction in automotive commuting by simultaneously discouraging it and encouraging use of alternative transportation.

5. Water

Through the water category, the GBCSA addresses the reduction of potable water use through efficient design of building systems, rainwater collection and water reuse.

6. Materials

Through the materials category, the GBCSA targets the consumption of resources through the selection and reuse of materials, and efficient management practices. The basic concepts of the category are to reduce the amount of natural resources used, reuse whatever materials can be reused, and recycled whenever possible.

7. Land Use & Ecology

Through the land use and ecology category the GBCSA promotes initiatives to improve or reduce impacts on ecological systems and biodiversity. The term biodiversity is used to describe the variety of life in an area, including the number of different species, the genetic wealth within each species the interrelationships between them and the natural areas where they occur.

8. Emissions

Through the emission s category the GBCSA targets the environmental impacts of a buildings emissions, including and relating to watercourse pollution, light pollution, ozone pollution, global warming, legionella and sewerage.

9. Innovation

The innovation category is included as a way of encouraging, recognising and rewarding the spread of innovative technologies, designs and processes for commercial building applications and that impact upon environmental performance. It encourages the demonstration of efforts to apply sustainable development principles to the wider process of designing and procuring buildings (such as collaborative working practices), as well as any positive environmental influence brought to beat on the wider geographic area in which the project is located.; these efforts are recognised overran and above any credit obtained in other categories.

Therefore, the GBCSA promotes the following (Green Building Council SA, 2016):

- Careful building design to reduce heat loads, maximising natural light and improved circulation of fresh air.
- Energy-efficient HVAC and lighting.
- Using environmentally friendly, non-toxic materials.

- Reducing waste and using recycled materials.
- Water-efficient plumbing fittings and water harvesting.
- Using renewable energy sources.
- Sensitivity to the impact of the development on the environment.

The benefits of green buildings are lower operating cost, more efficient use of resources, higher rate of return and have shown to promote wellness and productivity.

- Lower operating cost

  "Research reveals that Green Star SA buildings enjoy energy savings of between 25% and 50% compared to buildings designed to SANS 204 standards. The payback periods of energy and water saving practices are becoming much shorter as a result of increasing utility costs and the wider availability of more affordable green building technology"

- Higher return on assets

  "Extensive studies in the United States and Australia have shown rental rates in green buildings to be approximately 6% and 5% higher, respectively."

- Increase in property values

  "Decreased operating costs, lease premiums and more competitive, less risky, future-proofed buildings contribute to the value of green buildings. This has been empirically proven in the United States and Australia with 11% and 12% valuation premiums, respectively."

- Enhanced marketability

  "Green building creates a differentiated product in the market, which is viewed as technologically advanced and environmentally and socially responsible. These attributes are positively linked to the company brand and image of the owner and/or the tenant."

- Reduced liability and risk

  "Green buildings are future-proofed against increases in utility costs, potential energy and water supply problems, tightening legislation, carbon taxes and the impact of mandatory energy efficiency disclosure, as well as costly retrofits or even obsolescence."

- Retaining government and other major clients

  "The Department of Public Works' planned 'Green Building Framework' is likely to include certain green building requirements for government accommodation. This will increasingly apply to large multi-national tenants too."

- Responsible investing

  "Investment in green building is an integral part of the worldwide trend to more responsible, sustainable and ethical investing."

- Increased productivity

  "Improved internal environment quality (IEQ) from increased ventilation, temperature and lighting control, the use of natural light and the absence of toxic materials result in the improved health, comfort and wellbeing of building occupants. This has been shown to increase productivity – always a significant factor in the profitability of a business. Studies show improvements in productivity of up to 20% which easily covers any premium paid for higher quality green space."

- Attracting and retaining talent

  "Skilled staff members are hard to attract and retain. However, educated people, particularly younger graduates, are increasingly aware of sustainability and wellness issues and consequently, may be more attracted to working in a green environment."

- Minimising churn

  "With increased comfort and occupant satisfaction and more flexible spaces, green building can minimise the costs and impact of churn. With lease terms in South Africa typically ranging between 3 and 5 years, churn represents a significant cost to businesses."

- Combat climate change

  "Green building practices can have a significant impact on combating climate change and help to create truly sustainable communities."

  (Green Building Council SA, 2016).

GBCSA Vision

“To lead transformation of the South African property industry to ensure that all buildings are designed, built and operated in an environmentally sustainable way that will allow South Africans to work and live in healthy, efficient and productive environments” (Green Building Council SA, 2016).

GBCSA Mission

“Our mission is to promote, encourage and facilitate green building in the South African property and construction industry through market based solutions focussing on:

- Advocacy and promotion
- Rating tools
- Education and training
- Resources”

(Green Building Council SA, 2016)

At the end of October 2016 there were 193 Green Buildings certified and 285 projects registered for certification in South Africa. This leads to the assumption that the market for green buildings is growing, because of the ration buildings registered at 285 to those certified at 193 (Green Building Council SA, 2016).

In conclusion, it is important to note that the GBCSA has highlighted lower cost saving, increased asset values, enhanced marketability, reduced liability and risk, retaining major clients, responsible investing, increased productivity, attracting and retaining talent, minimising churn and environment saving as key benefits which informs the current key value proposition.

CHAPTER 3: DEVELOPING A STRATEGY

3.1 INTRODUCTION

Developing a strategy is to create a plan to achieve a desired outcome. The strategy will provide direction, control (even in times of uncertainty) and focus on obtaining the planned rewards, through measured performance. In this chapter we are going to unpack the development of a strategy and focus on the Osterwalder business canvas as a tool to determine the current and future state of green buildings in South Africa from which the strategy will be developed.

3.2 THE STAGES OF CREATING A STRATEGY

"Strategic Vision, setting objectives, creating a strategy"

The purpose of developing and then executing a strategy is to create sustainable value. To compete in either a red ocean (between competitors – multiple treats, defending market share [new entrants, competing for market share]) or blue ocean (no competitors – first entrant). In the process of developing the strategy, special attention is given to the following items:

1. Direction setting
2. Roles and responsibilities
3. Performance targets
4. Deciding on a strategy that will be suitable for the desired outcome

The Managerial Strategic Process is depicted in Figure 3.1.

When creating the strategy, cognisance and thought are to be given to the aspirations and goals of the business. How does the business operate and what are they doing well that clients enjoy? Crating a strategy is an interactive process, fine tuning and modifying the entire strategy to have a good business fit with the resources as an end result (Martin, 2010).

Figure 3.1: Managerial Strategic Process

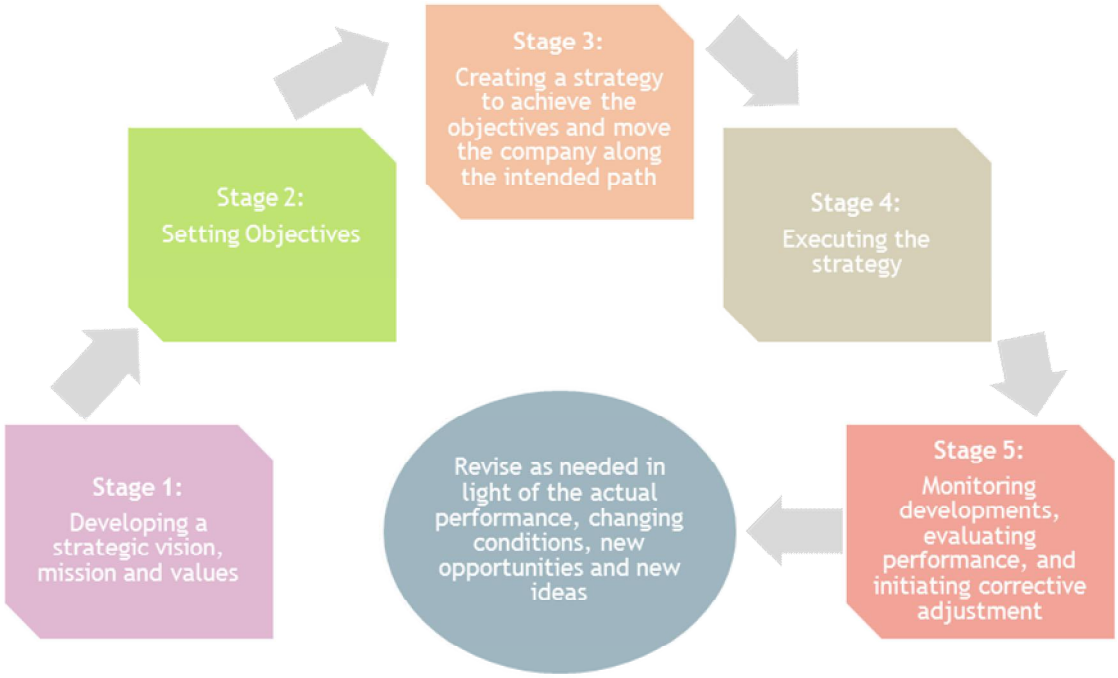


Figure 3.1: Managerial Strategic Process was adapted from Hough et al. (2010).

For the purpose of this study only stages 1, 2 and 3 were investigated.

Stage 1 – Develop a Strategic Vision

The strategic vision is the direction and future (where we are going) and includes the aspired product, market, customer and technology that will be applied to achieve the desired position. A well-conceived vision is specific to the desired outcome, provides understanding of the future and provides a reference point for making (aligned) decisions. The strategic vision should "stretch" the creator and participants to achieve a better than usual position.

Values are the moral compass to which individuals conduct and execute everyday activities – it's the way people do things and conduct themselves. The values we have should influence the strategic vision and therefore the strategic vision is to be aligned to our values. The strategic vision should leverage of the values which are people's behavioural fall-back and their natural state or rather habits of dealing with things or situations, especially in times of uncertainty and conflict (Hough et al., 2010). There is a perception that there is an increasing amount of businesses of the opinion that environmental sustainability is a competitive advantage (Laari, Toyli, and Ojala, 2016).

Stage 2 – Setting objectives

Setting objectives is to break the strategy into manageable portions that are specific and measurable. Therefore the collation of the objectives equates to the deliverables of the strategy. The objectives are required to be executed in a specific sequence, therefore providing a set of targets to be achieved to complete and realise the desired end product. The objectives should stretch the status quo and utilise the full potential of the environment. Both short-term and long-term objectives are required over the life span of the strategy (Hough et al., 2010:34). A long-term strategic indicative is to build resilience through aligning both a competitive and functional strategy (Acquaah, Amoaka-Gyampah, and Jayaram, 2011)

When analysing the environment for sustainability, the value chain of the product is to be considered through a multi-disciplinary view to obtain holistic findings to inform the objectives (França, Broman, Robert, Basile, and Trygg, 2017).

Stage 3 - Crafting a strategy

Crafting the strategy involves finding answers on the “how to/what needs to be done?” questions. Crafting a strategy involves an entrepreneurial way of doing things, being innovative and seeking continued improvement (better ways of doing things), being adaptable and risk tolerant (calculated). Strategic Plan = Strategic Vision (Outcome / End Result) + Objectives (Manageable Portions) + Strategy (How to?) (Hough et al., 2010).

When crafting a strategy, there needs to be a connection throughout the entire business structure. When crafting the strategy, continuous changes and iterations are required to focus and sharpen the strategy to fit with the available resources. When crafting a strategy, the business in all its facets should be known and patterns in the internal and external environment noticed (Mintzberg, 1987).

3.3 THE FIVE GENERIC COMPETITIVE STRATEGIES

“Compete on either price or differentiation”

Porter’s generic completive types bas been one of the most influential strategic management concepts and has created the platform for numerous strategy research across a wide range of disciplines and industries. Porter’s approach is to analyse the competitive behaviour of a business through a defined structure. The three generic competitive strategies are cost leadership, differentiation and focus. The completive strategies stem from the business strategic advantage and strategic target (Tansey, Spilane, and Meng, 2014).

Every competitive strategy needs to be tailored to the environment conditions and the desired outcome. All strategies, when stripped down to the core, are targeting a broad or narrow market and are either based on cost or differentiation.

1. **Low-cost** (Hough et al., 2010).

- Target is on a broad market; competing on price.
- Low cost provider's competitive advantage is lower overall cost than competitors.

2. **Broad-differentiation** (Hough et al., 2010).

- Target is on a broad market; competing on differentiation.
- Differentiating provider's competitive advantage should be based on competencies and capabilities, preferably not easy to copy.

3. **Best-cost** (Hough et al*.,* 2010).

- Target is on a broad market; competing on value for money (hybrid between cost and differentiation).
- Best-cost provider's competitive advantage is lower costs incorporating upscale attributes (value for money).

4. **Focussed–cost**

- Target is on a narrow market; competing on price.
- Focussed cost provider's competitive advantage is to serve niche market with lower cost.

5. **Focussed–differentiation** (Hough et al., 2010).

- Target is on a narrow market; competing on differentiation.
- Focussed differentiation provider's competitive advantage is to serve a niche market with specific competencies and capabilities.

Case studies conducted in China within the housing market found that cost was the most significant barrier for people to cross to go green. The green completive strategy is based on differentiation (Zhang, Shen, and Wu, 2011).

Some research suggests that successful businesses in the RSA have implemented high quality products at low cost on a dependable basis (Kruger, 2012).

3.4 DRIVING FORCES

It is important to understand where in the life cycle (from start-up to discontinue) the initiative is. The driving forces are the forces that impact and change the competitive nature of an industry. The driving forces are exerted or affected by competitors, suppliers and customers. Driving forces are the major underlying force that alters change and competition. The most common driving forces are (Hough et al., 2010):

- Emerging new on-line capabilities and applications
- Globalisation
- Changes in long-term growth rate
- Changes in customer demographics
- Product innovation and changes
- Technological change and manufacturing process innovation
- Marketing initiatives
- Entry and exit of major competitors
- Know-how
- Changes in efficiency and cost
- Customer preference for differentiated products
- Standardisation
- Uncertainty and business risk
- Government regulation, policies and influence
- Public behaviour

3.5 OSTERWALDER – KEY FOCUS AREAS

"Holistic view of the entire business that surrounds and supports the key value proposition"

The Osterwalder Business Model is a conceptual tool that contains a set of elements and inter-relationships that explain the business logic of a specific organisation (Gabriel & Kirkwood, 2016). One of the primary ways in which organisations use the Osterwalder Business Model is in their regular strategic planning and development cycles, to create a strategy blueprint (Strategyser, 2016). Based on Google Trend Analys done in 2015 it was found that the traditional strategic plan is loosing popularity while business canvas models are gaining popularity, the business canvas is used to describe the current and future state to formulate a business strategy (Strategyser, 2016).

The Osterwalder Business Model was selected for this study because of the nine building blocks defining a business. These nine blocks are based on the four key deliverables, namely product, customer interface, infrastructure and financial aspects. The nine boxes provide direction and

items to be covered for business planning (Gabriel & Kirkwood, 2016). The Osterwalder Business Model will be applied as a qualitative study consisting of interviewing individuals to tease-out answers to questions and concepts based on the current and future state of green buildings in South Africa. The nine building blocks are to be filled-in by the results obtained from the interviews, set-out by a structured questionnaire to compare and evaluate to draw sensible and comparable conclusions of the findings for the current and future state of green buildings in South Africa in order to formulate a strategy to bridge the gap between the current and desired/future state of green buildings in South Africa.

The Osterwalder business canvas is a useful tool to map out an entire business on a single piece of paper providing a holistic view, i.e. the business canvas displays a 3D complex business graphically on an easy to understand 1D (flat) surface by focusing on the deliverables and operations of the business within key categories. The tool is useful to map-out the present vs future business, therefore identifying the gap to be closed. By mapping out the present vs future, a strategic plan can be formulated to achieve the desired future state.

The Osterwalder business canvas can be seen as a tool to determine how an organisation or business selects its customers, defines and differentiates its offerings, defines the tasks it will perform itself and those it will outsource, configures its resources, goes to market, creates value for customers and captures profit (Osterwalder & Pigneur, 2002).

The business model framework provides a simple and logical structure for the strategist to think about how the many activities work and fit together in order to execute the strategy. The business model provides context of the strategic alignment within the nine boxes and strategic diffusion between the nine boxes (Strategyser, 2016).

The key focus elements of the Osterwalder Business Canvas are outlined below. Thought provoking questions are indicated under each element to gain insight and tease-out valuable answers from the participants that will provide the base for the development of the strategy.

1. Value proposition

The value proposition describes the products and/or services that create value for a specific customer. Aspects that contribute to the value proposition are newness, performance, customisation, brand, price, cost reduction/money (cost) saving, risk mitigation - transfer - avoidance, accessibility, convenience and usability (França et al., 2017).

What value do we provide to the customer?

Which problems are we solving?

What bundles of products and/or services are we proving to each customer segment?

Which customer needs are we satisfying?

2. Key partners

Key partners describe the network of partnerships that makes the business operate. Key partners can include support, alliances, competition, buyers and suppliers. Key partners are required to improve the elements within the business model (França et al., 2017).

Who are our key partners?

Who are our key suppliers?

Which key resources are we acquiring from partners?

Which key activities do our partners provide?

3. Key activities

Key activities describe the most important items that should be executed for the business model to function. Key activities are required to produce the value proposition and to action each element in the business model (*França et al.,* 2017).

What key activities do our value propositions require?

Our distribution channels?

Customer relationships?

Revenue streams?

4. Key resources

Key resources describe the most important assets required to make the business model function. The resources can be financial, intellectual, physical and/or human (*França et al.,* 2017).

What key resources do our value proposition(s) require?

Our distribution channels?

Customer relationships?

Revenue streams?

5. Customer segments

The customer segments describe the different customers that the value proposition is aimed at to serve. The focus is on exploring and understanding customer needs. Different customer segments can include mass market, niche market, segmented market, diversified market and multi sided market (França et al., 2017).

For whom are we creating value?

Who are our most important customers?

6. Customer relationships

Customer relationships describe the specific relationship that is created with the specific customer segments. Customer relationships can vary from personal to non-personal (electronic). The relationship is driven by customer acquisition, retention and experience (França et al., 2017).

What type of relationship does each of our customer segments expect us to establish and maintain with them?

Which ones have we established?

How are they integrated with the rest of our business model?

How costly are they?

7. Channels

Channels describe how a company communicates the value proposition to customers. The customer communication channel is an important role in customer experience. The channel communities value proposition awareness, information and support. The channel can be direct or in-direct communication to customers.

The channel is required to create awareness, provide information, facilitate the purchase, deliver the value and provide after sales feedback (*França et al.,* 2017).

Through which channels do our customer segments want to be reached?

How are we reaching them now?

How are our channels integrated?

Which ones work best?

Which ones are most cost-efficient?

How are we integrating them with customer routines?

8. Cost structure

Cost structure describes all the costs incurred to provide the customer with the value proposition, including all the elements within the business model. Cost structures fall under two broad classes, namely cost-driven or value-driven (*França et al.*, 2017).

What are the most important costs inherent in our business model?

Which key resources are most expensive?

Which key activities are most expensive?

9. Revenue streams

Revenue streams describe how revenue is generated from customers through the value proposition (França et al., 2017).

For what value are our customers really willing to pay?

For what do they currently pay?

How are they currently paying?

How would they prefer to pay?

How much does each revenue stream contribute to overall revenues?

3.6 OSTERWALDER – CONCLUSION

The Osterwalder Business Model was selected to determine the current and future state of green buildings over the nine building blocks which map out the structure of a business. The nine building blocks provides structure and defines the value proposition, partners, activities, resources, customer segments, relationships, channels, cost structure, revenue streams. The current and future state within the nine building blocks are to be compared and evaluated to

formulate a sensible strategy to compete via cost, differentiation or niche within the green building market in South Africa.

CHAPTER 4: EMPIRICAL RESEARCH

"Driven by Osterwalder as a tool to unlock the future"

4.1 PROBLEM STATEMENT

Creating a competitive strategy for green buildings in South Africa requires an investigation into the present and future of the green building industry. By evaluating and finding the difference between the present and the future, a strategy can be developed to bridge the gap between the existing and the desired state.

4.2 CREATING THE RESEARCH DESIGN

Due to little research being available, a qualitative approach was followed to obtain insight from professionals in the built environment on green buildings. The research design was conducted in a cross-sectional time slot applicable in November 2016 on the present and anticipated future green built environment.

4.3 SELECTING A RESEARCH METHOD

4.3.1 Literature Review

A literature review of green buildings in South Africa was conducted as well as a literature study on the elements involved in a competitive strategy. A literature study on the Osterwalder Business Canvas was conducted to supplement the competitive strategy study to be used as a tool for the empirical research process.

4.3.2 Empirical Research

4.3.2.1 Research Design

The research design adopted for the study was a cross-sectional qualitative study completed and applicable to November 2016.

4.3.2.2 Study Population

The study population consisted of individuals that operated and functioned in the built environment.

The sample group participating in the study can be described as per Table 4.1 below:

Table 4.1: Sample Group Demographics

Respondent Number	Age	Sex	Occupation
1	31	Male	Engineer
2	38	Male	Engineer
3	32	Female	Project Manager
4	28	Male	Engineer
5	51	Male	Engineer
6	31	Female	Sustainability Consultant
7	63	Male	Quantity Surveyor
8	72	Male	Engineer

Average Age 43.25

4.3.2.3 Constructing a research instrument

The research instrument was a structured interview that was based on the Osterwalder Business Canvas covering the key elements as listed below. The present and future status of green buildings in South Africa was discussed for each element:

- Value Proposition
- Partners
- Activities
- Resources
- Customer segments
- Customer relationships
- Channels
- Cost Structure
- Revenue Structure

The following concepts were discussed over and above the Osterwalder Business Canvas elements:

- The present status of green buildings in RSA.
- The current trends of green buildings in RSA.
- The future of green buildings in RSA.
- The next big green development aka “thing” in RSA.
- The potential opportunities for green buildings in RSA.
- The problem or need that needs to be solved or satisfied for green buildings in RSA.

4.3.2.4 Collecting data

The data was collected through a structured interview. The interview agenda was circulated to the partaking respondents prior to the interview to get the respondents thinking in-line with the discussion points as per the interview agenda. The interview was conducted at various locations from coffee shops, boardrooms to kitchens. The duration of the interviews varied from 1h30min to 2h30min.

4.3.2.5 Data analysis

The data obtained from the interview was converted into a comparative table and then summarised into a combined section. Analysing the present and future Osterwalder Business Canvas, including then additional supplementary questions. Then summarising the combined output from the sample group into a single homogenous finding. The table was converted into the Osterwalder Business Canvas, illustrating the current, future, combined and ultimately the output strategy.

4.3.3 Limitations of the study

- The study was limited to the South African built environment with specific reference to green buildings.
- Participants were limited to individuals who functioned and operated in the built environment from a consulting background who resided in Gauteng, South Africa.
- No statistical analysis was conducted on the data and therefore did not form part of this study.

4.4 THE PROCEDURE INVOLVED IN SELECTING THE SAMPLE GROUP

The first round sample group was selected by the researcher based on informal discussions with professionals in the built environment, discussing who they thought would be the most suitable candidates for the study who could provide significant value and insight. The author selected the first round of candidates based on the discussions. At the conclusion of the interview, the author requested the participant to provide him with a recommendation of who to interview for the

study. Therefore, a snowballing method was implemented to find the following round of participants to interview.

4.5 COLLECTING THE DATA

The data was collected via a formal interview and a pre-determined and circulated agenda. The interview was conducted following the agenda. The author did not influence the participant but rather facilitated the process by providing background and asking leading questions to get the participant in a green thinking mind-set.

The initial points of discussion to facilitate the thinking process were the following concepts:

1. Background of the study.
2. What is a green building?
3. What is an opportunity?
4. What is a strategy?
5. Market – supply and demand.

After the key concepts had been discussed, the interview started by following the structured agenda:

Note: the questions indicated under the key elements were for facilitating the interview and were not required to be specifically answered by the participant.

The full interview agenda is attached under **Annexure A – Interview Agenda** of this study.

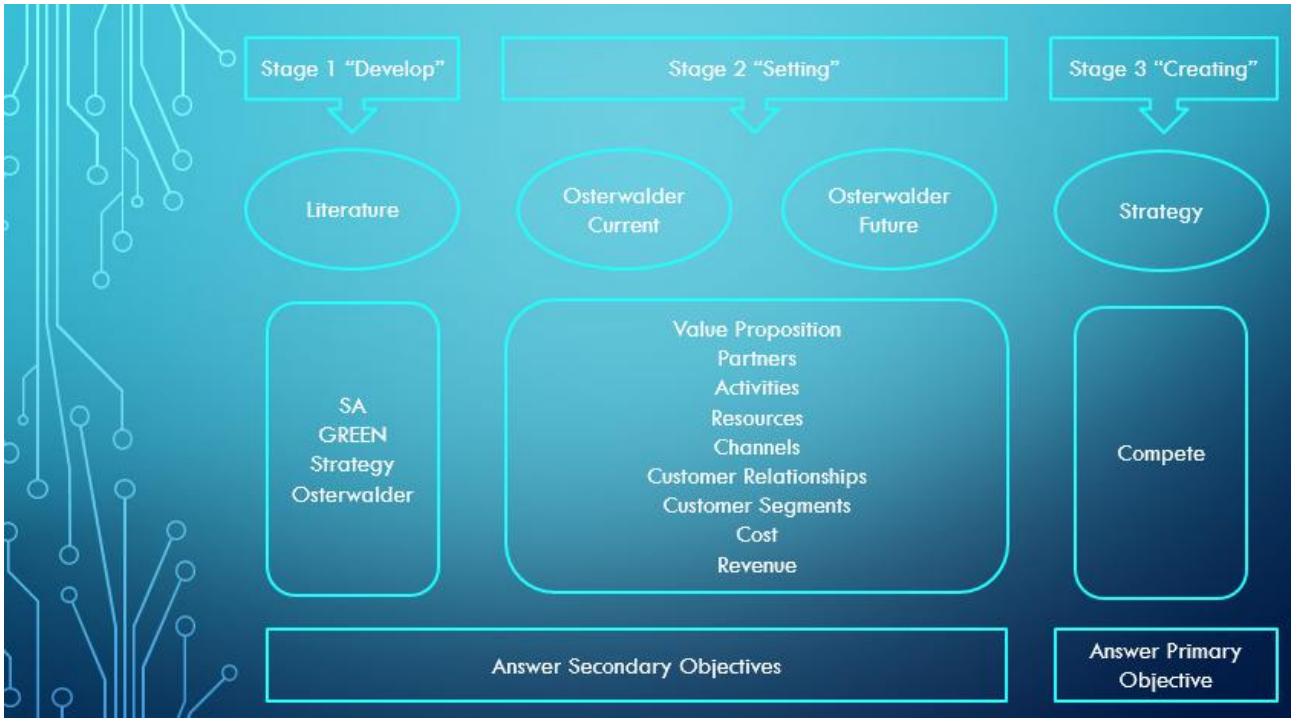
4.6 ANALYSING THE DATA

The table summarising the findings of the empirical research is attached under **Annexure B - Table – Interview Results**

CHAPTER 5: DISCUSSION AND INTERPRETATION OF THE FINDINGS

The aim was to indicate what the difference ("gap") between the current status and the anticipated future of green buildings would be, thereby identifying the opportunity to assess and take action. In this section of the report, the findings are discussed.

Figure 5.1: Context - Stage 1 to 3 of the Strategic Managerial Process



As depicted in Figure 5.1 above, the first stage was to complete a literature review to understand the variables within the study battery limits and to develop the key concepts to evaluate green buildings and then to formulate a competitive strategy. The second stage was to gain an understanding of the present and future status of green buildings via probing questions and the Osterwalder Business Canvas in a structured interview with professionals in the built environment. The findings are documented and discussed in this chapter (5) of the study. The third stage is to bridge the gap between the present and future with an action plan. The action plan is the competitive strategy as documented in Chapter 6 of this study.

5.1 GREEN BUILDINGS - CURRENT

What do you think is the current status of green buildings?

Bragging – image

The majority of interest generated by green buildings is the green rating system. The green certification is used as bragging against competitors and as a marketing tool to inform the

market of their green initiatives and green conscious. The current reason to go green is rather to brag about a green rating than to solve a real problem.

Green is new and in infancy stage

Green buildings is still a new concept in RSA with big corporates taking part due to the increased capex cost involved in building green buildings. Energy is still affordable in RSA in comparison with the higher capex input required to go green. The public and clients are still to be educated on the benefits (Opex savings; reduced life cycle operating cost and increased asset sale value) and obligation (saving the environment) to go green.

Focus on corporates

Most of clients taking part in the green movement are big corporates, because of market exposure and bragging rights. Big corporates wants to tell their customers that they are environmentally responsible.

Green is here to stay but not addressing the real problem

Green buildings will become the norm but currently the focus is on cost saving in the long-term (Opex saving) and bragging rights against competitors and not solving a real problem as carbon emissions and resource waste.

What do you think is the current green trends?

Becoming more popular

Green buildings are becoming more popular with clients and the market. The reason for the increase in popularity is due to a growing awareness as people are more informed about green initiatives and the real solution and moral obligation to save the environment for future generations.

Government getting involved

The RSA government is getting involved, proving solar geysers to residential developments in rural areas. The SANS 10400 code as published has a strong emphasis on renewable energy and responsible development. The environmental authorities put a strong emphasis on environmental sustainability and responsibility not to harm the environment but to rather be neutral or enhance the environment with new developments.

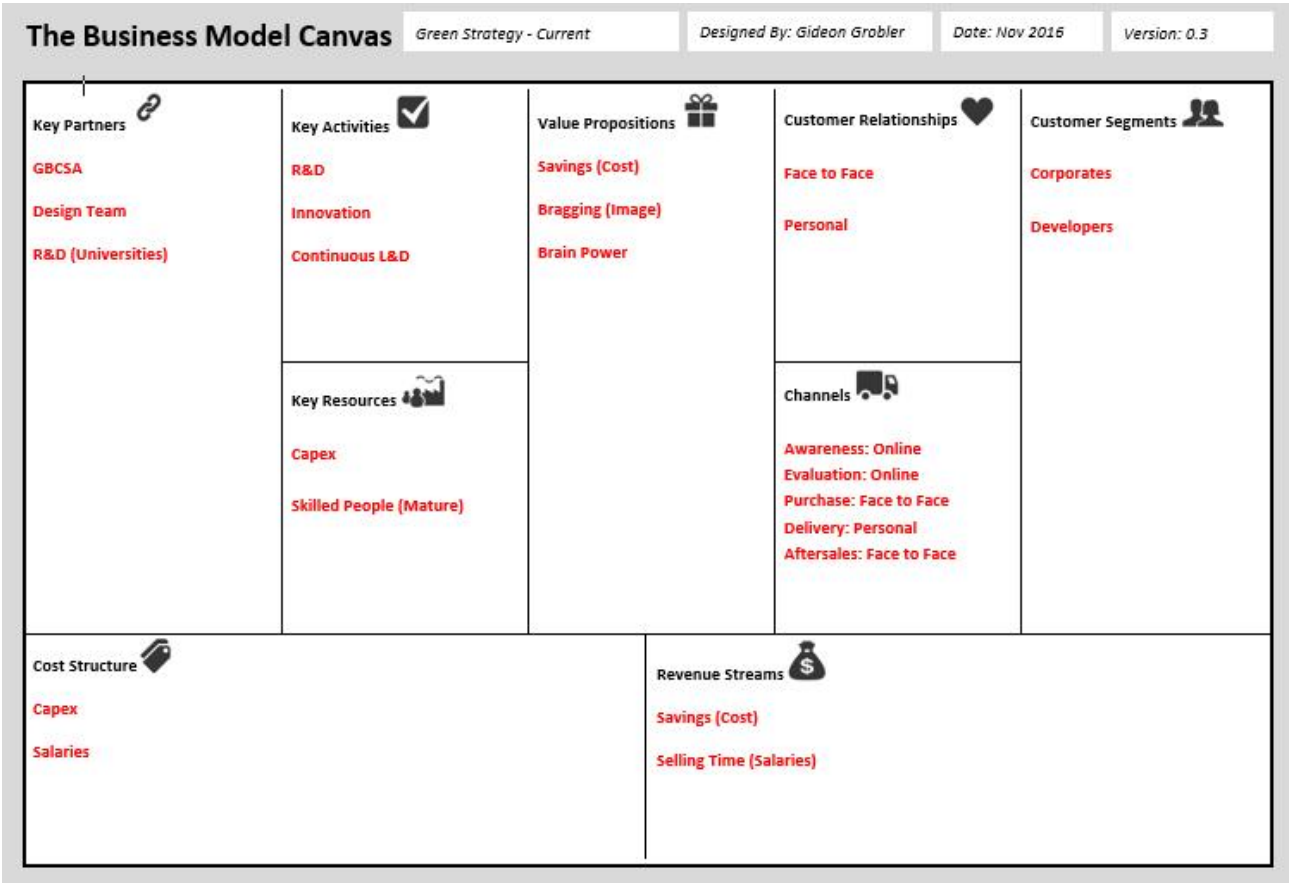
Higher green certification ratings sought

Clients are starting to go for higher ratings as usual. Clients have started to go for five- and six-star ratings rather than the best practice four-star rating which is the majority of ratings issued thus far.

Fit-outs and IEQ;

Retrofits of existing buildings to improve sustainability and IEQ are increasing in popularity due to the amount of brown-field buildings being used. The IEQ improves productivity. An example of improved productivity is people using a boardroom with good light, clean air, comfortable temperature, ergonomically correct furniture will be productive for longer and do work rather than going for comfort brakes outside to get some fresh air or light.

Figure 5.2: Osterwalder Business Canvas - Current



1. **Osterwalder elements for current**

- ***Value proposition***

Savings (cost)

Saving cost on Opex in the long-term makes financial sense. What is to be determined per initiative is the expected and required payback period of the initial Capex cost over the Opex saving.

Bragging - image

By obtaining a green certified rating, the client can use the green rating as a marketing tool to maintain and grow their customer base. *The green rating can be used to annoy their competitors.*

Brain power

Green initiatives are at the fore-front of development, providing new and innovative solutions to problems. The problems need to be solved before implementing skilled people with experience. Knowledge is required to find appropriate solutions for specific problems and client needs. The customised approach requires skilled people who are mature with the right set of experience, knowledge and understanding.

- **Key partners**

GBCSA

The GBCSA provides a platform for clients to find consultants and contractors who are green conscious to provide green focussed solutions. The GBCSA provides education, training and awareness on green buildings in RSA.

Design team

The design team is key to success. The design team should be involved from documenting the needs of the client to finding an appropriate solution, integrating the value/supply chain and taking cognisance of the use and fit for purpose of the building. The design should be constructed to be operated as intended by the owner, tenant and surrounding stakeholders.

R&D (Universities)

R&D is a valuable contributor to innovation. Universities are an ideal place to start and fund creativity and innovation with the number/volume of students who are researching and developing themselves from under-graduate to post-graduate level.

- **Key activities**

Innovation

Innovation is creativity embodied and in action, no longer an idea but rather an action or something tangible. Since green buildings are on the fore-front of building technology and innovation, a great deal of time is to be spent on finding new and efficient ways in doing things, being building or operating.

R&D and continuous L&D

Stakeholders should make time to find out what others (service providers, competitors) are doing (new and innovative developments). Thirty percent of a consultant's time should be spent on R&D and continuous L&D to create a competitive advantage, create continuous value and be the market leader.

- **Key resources**

Capex

Currently the Capex involved in going green is high because of the ground breaking initiatives. The R&D has not paid itself off.

Skilled people (mature)

Due to the innovative, customisable, needs driven nature of the problem, creative skilled people are required to find appropriate solutions. Mature refers to people with the required experience and behaviour with an ability to manage the unknown and be adventurous and conscious of stakeholders' needs.

- **Customer segments**

Corporates

Big corporates are the market that are mostly interested in green ratings for bragging rights. Due to King III Reporting placing an emphasis on environmental sustainability and responsibility

reporting, corporates are focusing their efforts on hard measured green initiatives to be environmentally responsible. Big corporates have the tendency to brag about what they have achieved. Since green is growing in popularity and the right thing to do, it gives corporates the opportunity to brag and get their name out into the market, do their part to reduce operating costs and impact on the environment.

Developers

Developers that are only building to sell and not keep are focused on low cost building and selling at the highest price, while developers who are the owners of the buildings with tenants are focused on building optimally to reduce their Opex cost, keep productive and happy tenants and increase the asset value for future sales.

- **Customer relationships**

Face to face / personal

The customer relationships are personal and face to face due to the magnitude of Capex investment, time duration (long-term) from initiation to close-out of the project, complexity and nature of the built environment. Clients and design team members form bonds that have nothing to do with the company but rather the individuals between which the relationship is formed. The competitive advantage is based on differentiation and not cost. Clients require the best professional team that suits their needs and specific problems.

- **Channels**

Awareness: online

Awareness is created by online websites.

Evaluation: online

Service providers are initially evaluated online.

Purchase: face to face

Due to the complexity and Capex investment, a face to face relationship and interaction is required.

Delivery: personal

Due to the complexity and Capex investment and duration involved, a personal face to face relationship with the required human resource executing the work is required.

Aftersales: face to face

This refers to the measuring and evaluation of the product or initiative performance to determine if the product is delivering what it was intended to deliver.

- **Cost structure**

Capex

A big cost item is the Capex required for initiatives in the built environment.

Salaries

The design team (specific individuals) sells time to render a service to the client and the biggest cost item for a consulting firm is salaries.

- **Revenue streams**

Savings (cost)

Saving utility cost by implementing building components/elements that are more energy efficient.

Selling time (salaries)

The design team (specific individuals) sells time to render a service to the client, therefore the revenue is clients buying consultant time.

5.2 GREEN BUILDINGS - FUTURE

2. How do you think the green building future will look like? *(vision)*

Green will be the norm and will be regulated

In the future, green buildings will be called buildings. Green buildings will become the norm and the market will not be willing to touch non-green buildings. Therefore a big opportunity is to retro fit brown-field or “old”” buildings. RSA has started regulating buildings with the introduction of SANS10400. SANS10400 will expand to cover more areas that require efficient use of natural resources.

City layouts will be more sustainable and integrated (value chain)

Cities are to be more efficient and self-sustainable with the value chain in close proximity. The value chain includes power generation, farming food, manufacturing, industry and waste disposal (including sewer).

Energy consumption will be dictated by client / supplier

We will get to a point where clients and utility suppliers will dictate how much energy/resources should be supplied to a building, irrelevant of usage and it will be up to the building to provide the balance to function as per the intended use.

Off the grid buildings with dual function equipment and energy storage

Buildings (speciality residential) will be built to be completely off the grid, with minimal or no input from external utility resources (power and water). Equipment and features will have dual function(s), for example carpets will have multiple functions such as finishing for aesthetics, temperature insulation, as a solar panel and to filter air.

3. What do you think is the next big green “thing”?

Sewer clean-up on premises (commercial and residential)

Sewer will be cleaned, specifically at domestic/residential level, and no longer at the full scale sewer plant at a centralised location.

Fit-out of buildings (integrating value chain)

Most of the buildings are brown-fields or “old” with only a very small percentage being new or currently being built. Old buildings require fit-outs to make them fresh, appealing and efficient. The GBCSA promotes the re-use of materials to reduce the use of natural resources, to obtain the resource, then convert into a required product and finally to deliver the product to the end destination.

Non-HVAC/Nin lighting buildings

Commercial building HVAC is very energy intense and we need to move away from external HVAC systems to a building designed to function within the geographical location, without the need of an external HVAC system. Therefore, the use and selection of materials are essential for temperature transfer and detainment.

4. What gaps do you think exist that is a potential opportunity?

Waste management (food, water, material, energy)

Humans are waste generating intensive, creating waste that we do not re-use or dispose of in an efficient manner. The opportunity exists to find more effective and efficient ways to reduce waste from households (food, water), for example, flush toilets with filtered grey water. Grey water is from wash-hand basis and showers.

Fit outs

The same answer as per question 3 above applies to question 4: Most of the buildings are brown-fields or “old” with only a very small percentage being new or currently being built. Old buildings require fit-outs to make them fresh, appealing and efficient. The GBCSA promotes the re-use of materials to reduce the use of natural resources, to obtain the resource, then convert into a required product and then to deliver the product to the end destination is very wasteful and creates carbon.

5. What problem needs to be solved?

Reduce the negative impact on the environment

We need to mitigate/reduce the negative impact on the environment and sustain/improve the positive impact. We are past the point to implement green initiatives based on cost savings and need to implement green initiatives to save the planet for future generations.

Education - do more with less

Educating the youth is the starting point – we need to educate the youth on the importance, functions and beauty of the natural environment. If the youth understands and loves the environment, they will protect it.

Clients require education to understand the responsibility they have to be environmentally sustainable and not only financially sustainable. Clients should base their decisions not only on their own well-being but the well-being of others.

Consultants should be educated/knowledgeable to provide solutions that are applicable to the problem and needs of their clients, to provide fit for purpose buildings that are environmentally sustainable and enhancing the positive. Consultants must educate their clients on the importance and value that green can bring to their business.

We need to increase productivity and happiness and reduce the waste and use of resources.

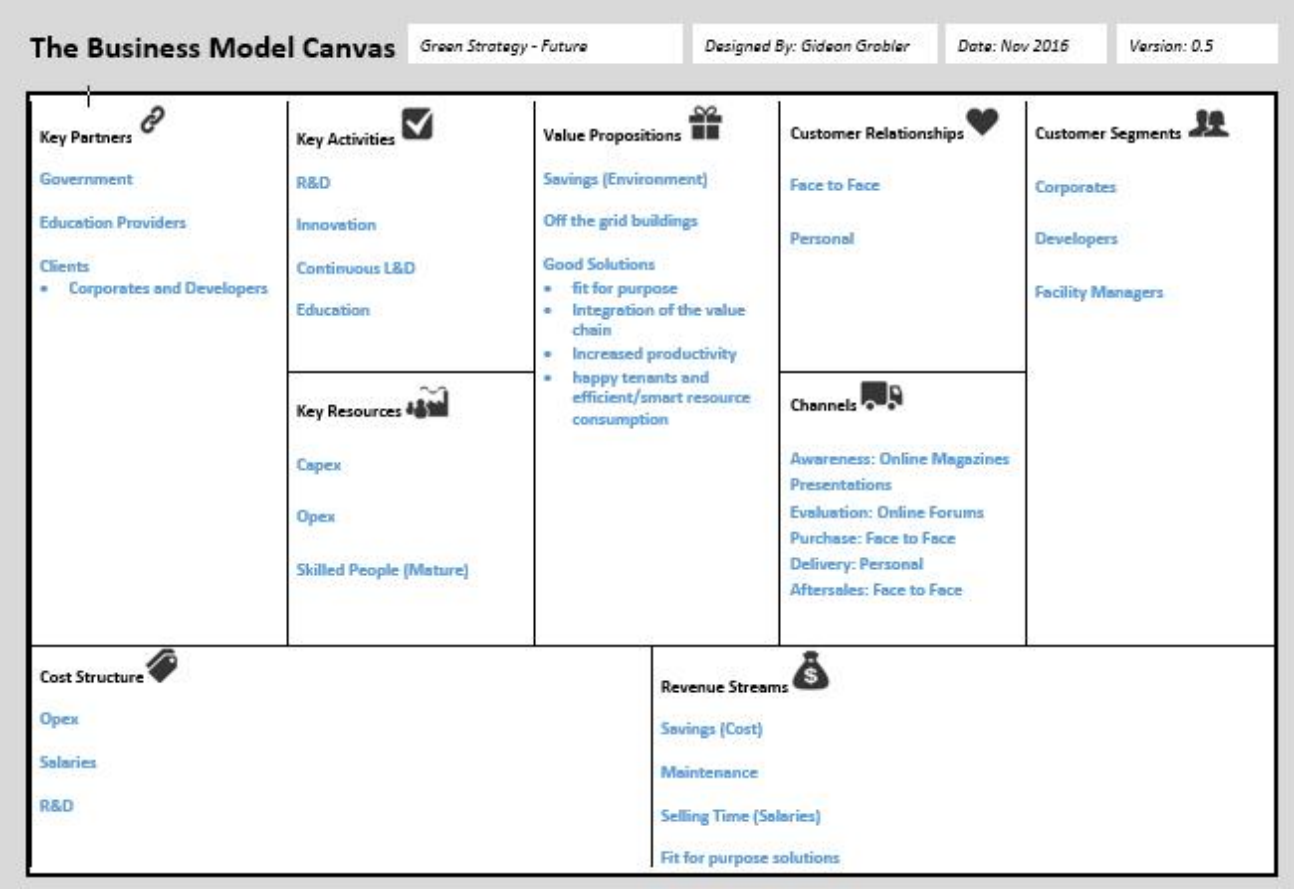
A point should be reached where the Capex and Opex spending are less and we need the best of both and not a compromise between the cost centres.

R&D / L&D must understand the problem and find appropriate solutions that address the root-cause of the problem by focusing on the vital few rather than the trivial many. We need to move away from a quick fix on the easy to address problems and focus on the problems that need attention to be solved.

We need to be carbon neutral and go into reverse (do more good than bad)

We need to live carbon neutral, therefore for every bad thing we do we need to in return do something good. That is the starting point. Thereafter, we need to reverse the carbon we have exerted and go into reverse gear and be carbon negative by implementing better environment enhancing initiatives than the negative effects. For example, A church built with wooden roof beams was constructed from trees of over 50years old, the architect design the church planted the same trees used for the roof beams next to the church for when the day domes to replace the wooden beams there will be trees old enough next to the church to be used; during the time the trees are next to the church the environment is enhanced and will be replaced when the time comes.

Figure 5.3: Osterwalder Business Canvas - Future



6. Osterwalder elements for future:

    - **Value proposition**

Savings (environment)

Saving the environment is what matters. We have exceeded the point where decisions are driven by cost. Saving the environment is a long-term initiative. The saving will be measured based on mitigating and reducing the negative impact on the environment, one of which is to measure the carbon impact of products and/or services.

Off the grid buildings

Buildings should be self-sufficient and able to generate renewable energy and dispose and re-use waste. The buildings will not be dependent on utility service providers.

Good solutions

Innovative solutions will be applied that cover the following key categories:

- Fit for purpose

- Integration of the value chain
- Increase productivity – happy tenants and efficient/smart resource consumption

Brain power

There will be a higher focus on brain power to spend more time on getting the right solution. Clients will be hungry for consultants that has brain power. Brain power will be the biggest competitive advantage within an already differentiating competitive market.

- **Key partners**

Government

Government must provide funding and appropriate human resources for green initiatives, especially on green services which the public sector is not willing to provide.

Education providers

The youth must be educated on the importance of the environment and the role each human has to play to protect the planet for future generations.

Educating clients will fix the real problem and be part of the final solution.

Clients (corporates and developers)

Clients must be educated in what they want and why they want it (competent clients). Clients will make decisions based on environmental impact and not cost impact.

- **Key activities**

R&D – continuous L&D

Stakeholders should make time to find out what others (service providers, competitors) are doing (new and innovative developments). Thirty percent of a consultant's time should be spent on R&D, continuous L&D to create a competitive advantage, create continuous value and be the market leader.

Innovation

Innovation is creativity embodied and in action, no longer an idea but rather an action or something tangible. Since green buildings are on the fore-front of building technology and

innovation, a great deal of time is to be spent on finding new and efficient ways in doing things, being building or operating.

Education

We are all in this together and therefore we need to be better and help each other. Clients must be educated on what they want and who to ask to assist them. The youth needs to be educated to value the environment and protect natural resources. Consultants must continuously develop themselves and be innovative with fit for purpose solutions. Doing your best might not be good enough. We need to do enough to be sustainable.

- **Key resources**

Capex

Capex is required to build green buildings.

Opex

Opex is required to maintain initiatives implemented to remain functioning and efficient.

Skilled people (mature)

Skilled people with applicable experience, knowledge and skills are required with a level of maturity to formulate appropriate solutions to solve core problems in an innovative and sustainable manner. Mentorship forms an important part and role in developing human resources. Solutions will require creative thinking and the correct mix of skills to be innovative.

- **Customer segments**

Corporates

Big corporates will remain the biggest market for green initiatives; King III Reporting will place more emphasis on environmental sustainability and responsibility reporting. Corporates are focusing their efforts on hard measured green initiates to be environmentally responsible. Big corporates will require their tenants to be happy and more productive. Tenants will expect green buildings. For corporates to attract customers and talent they will have to embrace green.

Developers

Developers that are only building to sell and not keep will have to implement green initiatives. The developers who are the owners of the buildings with tenants are focused on operating their

building optimally to reduce their Opex cost, to retain productive, happy tenants and to increase the asset value for future sales. The market will demand environmentally sustainable buildings.

Facility managers

Facility managers will operate buildings that are lean on resource consumption and easy to operate. Example escalators will generate power to move people down and use the electricity generated to move people up. The services will be located at the unit and will be seen as stand-alone.

- **Customer relationships**

Face to face – personal

The customer relationships will remain personal and face to face due to the magnitude of Capex investment, time duration (long-term) from initiation to close-out of the built/operate, complexity and nature of the built environment. Clients and design team members form bonds that have nothing to do with the company but rather the individuals between which the relationship is formed. The competitive advantage is based on differentiation and not cost. Clients require the best professional team that suits and fits their needs and specific problems.

- **Channels**

Awareness: online

Awareness is created by online websites. Presentations, practical examples.

Evaluation: online (user forums)

Service providers are initially evaluated online.

Purchase: face to face

Due to the complexity and Capex investment, a face to face relationship and interaction is required.

Delivery: personal

Due to the complexity and Capex investment and duration involved, a personal face to face relationship with the required human resource executing the work is required.

Aftersales: face to face

This refers to the measuring and evaluation of the product or initiative performance to determine if the product is delivering what it was intended to deliver.

- **Cost structure**

Opex

Maintenance cost to keep equipment functioning as intended.

Salaries

The design team (specific individuals) sells time to render a service to the client and the biggest cost item for a consulting firm is salaries.

R&D

Time spent on non-billable work to continuously improve expertise.

- **Revenue streams**

Savings (cost)

Saving utility cost, therefore implementing building components/elements that are more energy efficient to use less resource input.

Maintenance

Providing a service to clients to maintain installed Capex to function as intended.

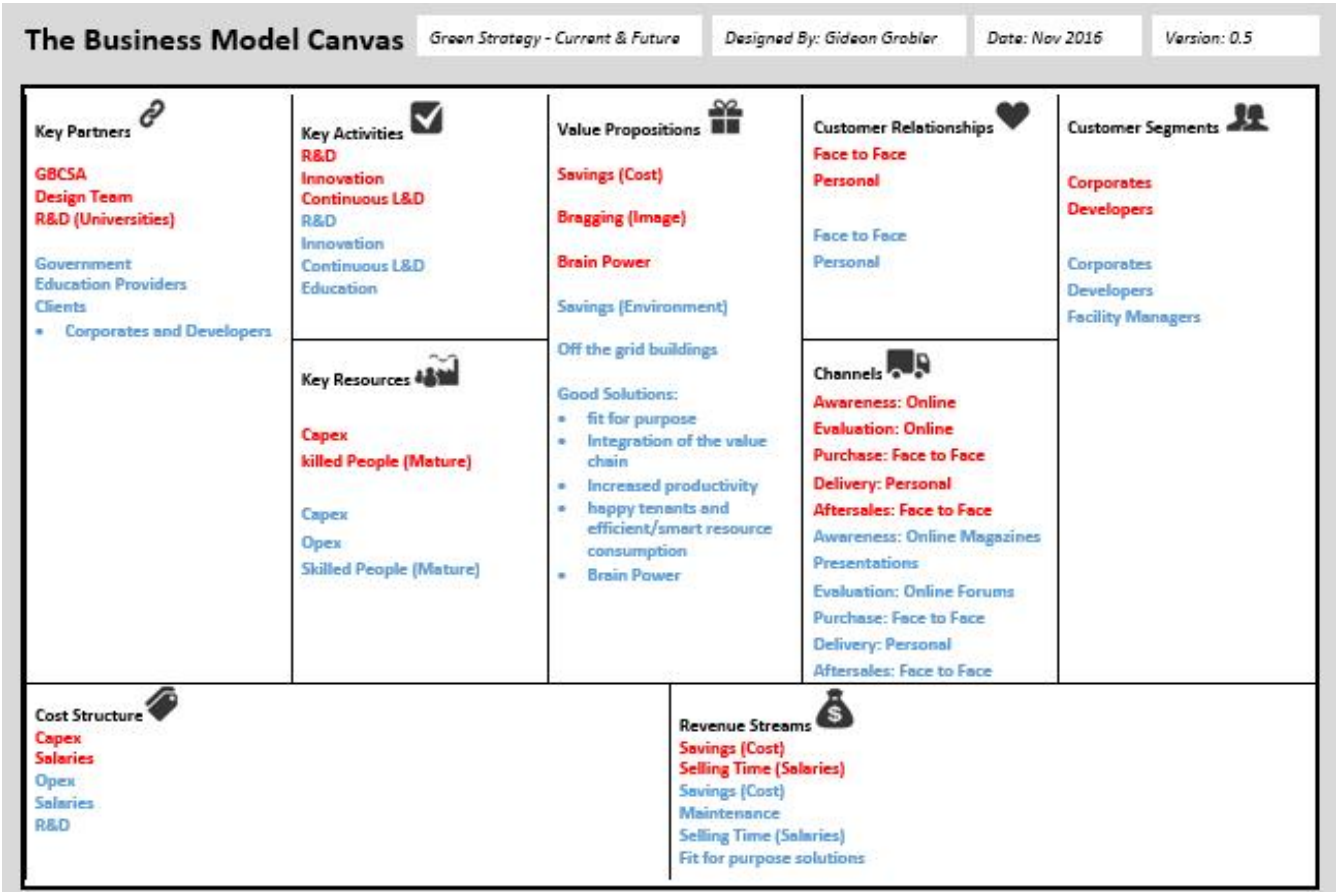
Selling time (salaries)

The design team (specific individuals) sells time to render a service to the client, therefore the revenue is clients buying consultant time.

Fit for purpose solutions

Patents and know-how to render innovative solutions to clients addressing the root-cause problem to enhance the productivity of tenants and reduce Opex cost and increase the positive impact on the environment. We are going to get to a stage where clients and consultants will share the upside and the downside of initiates.

Figure 5.4: Osterwalder Business Canvas – Current & Future



The Osterwalder Business Canvas as depicted in Figure 5.4 illustrates both the present (**red**) and future (**blue**) state of green buildings in South Africa.

CHAPTER 6: THE STRATEGY / CONCLUSION & RECOMMENDATION

6.1 THE STRATEGIC POCESS

Stage 1 – Develop a strategic vision

Green buildings will be the norm and will be regulated by government and buildings will be off the grid and self-sufficient with minimum external natural resource input. Due to the constraints on natural resources, clients and utility providers will dictate the energy available for use, irrelevant of the purpose of the building. A big driver and contributor to green buildings will be education and awareness of the general public and clients. Continuous R&D and L&D are required to stimulate innovation to solve root-cause problems, to improve tenant productivity and to retrofit “old” buildings to be environmentally sustainable. Integration and optimisation of the entire value chain is important to consider and improve, solving real problems. Buildings to be carbon neutral and negative to be sustainable. The purpose of green buildings is to reduce and mitigate the negative impact on the environment, to build and operate environmentally sustainable products.

Stage 2 – Setting objectives & Stage 3 – Creating strategy

1. **Value proposition**

Saving (environment)

Develop sustainable innovative solutions that address and solve a real environmental problem. Therefore, spend sufficient time defining and analysing a specific need/problem. A viable solution is then required to solve the problem. The opportunities are:

1. Fit-out of brown field buildings
2. Waste management – reduce, re-use and dispose
3. Water – reduce, re-use and dispose
4. Renewable energy
5. Become carbon positive – do more good than bad

Off the grid buildings

Develop initiatives that are reliant on renewable natural resources (wind, sun, water, gas) that are within the boundaries of a specified carbon emissions requirement for example:

- using materials for heat and cold transfer;
- using wind and heat transfer/flow for cooling and fresh air exchanges; and

- developing multi-function products/finishes.

Good solutions are:

- fit for purpose;
- integration of the value chain;
- increased productivity, happy tenants and efficient/smart resource consumption; and
- brain Power.

Solutions are required to be interesting, cool and to grab the attention of the market. The operation of the solution needs to be intuitive.

2. Partners

Design team

Develop relationships with good design team members (even from the competition) to become the preferred design team, the team will go through the interaction stages, namely forming, storming, norming, performing and adjuring. The team needs get to and remain in the performing stage. When the team is in the performing stage, continuous improvement is required to remain competitive.

R&D

An environment for R&D is required to stimulate and promote R&D, create a partnership with universities that has a strong R&D department and can add value to the business model.

Education providers

Source appropriate talent from education providers to become team members. Provide students with bursaries to do Master/Doctorate Degrees in the field that require development within the business.

Clients (corporates and developers)

Create lasting relationships with clients that are beneficial for all parties. Everyone is part of the successes; if one fails, all fail. The partnerships must be a win-win for all involved.

Government

Government will become a bigger player in green buildings by regulating, providing education and funding. Government is required to spend their budgets on value for money initiatives that address a real problem and fund initiatives that the private sector would not normally do. Consulting and assistance to government are empirical to be able to execute initiatives and to provide the know-how and mentorship that government requires, for example, from waste treatment to water distribution.

3. Activities

R&D + continuous L&D

R&D is required as a competitive advantage for continuous improvement, to create and gain market share. Therefore 30% of an individual's time are to be dedicated and spent on R&D. The focus on R&D will develop an entrepreneurial culture within the business and team.

Research key client(s) Osterwalder Business Canvas to tailor a suitable solution to enhance their Osterwalder Business Canvas elements.

Innovation

Create a culture and environment that promote innovation and out of the box thinking. The environment needs to be calculated and safe, giving human resources the opportunity to explore new ideas and not be afraid of failure. Contingency planning is required to allow for failure and tolerance for risk.

Education

Create environmental awareness with the youth and general public by engaging with them on a practical level. Take part in conferences and go for opportunities (conferences) to present case-studies, articles, research, findings and new solutions.

4. Resources

Capex

Green field and brown field projects require Capex to implement and execute. The value for money proposition is to be demonstrated to clients. Good solutions should be Capex effective and reduce conventional Capex requirements. By comparing conventional Capex with innovative/green Capex, there should be reduction in cost.

Opex

Opex cost should be on maintenance only (human resources, equipment) and not utility input.

Skilled people (mature)

Find skilled people who add value to the team and provide mentorship and support. The people need to be a good fit providing a platform for growth and success.

5. **Customer Segments**

Corporates + developers

Corporate firms and developers will remain the big customer segments to be served. Create relationships and put in the required effort to maintain the relationship. Provide corporates and developers with solutions that positively impact or enhance their Osterwalder Business Canvas.

Facility managers

The need for competent facility managers will be massive to operate buildings as intended, using all the features of the implemented initiatives.

6. **Customer relationships**

Face to face - personal

The relationship is not going to change in essence. A personal face to face relationship is required between consultant and client due to the following:

- customisation of the product/service
- Capex involvement;
- potential Opex savings;
- saving the environment;
- long-term relationship; and
- human factor and interaction.

Find client facing human resource(s) that are a natural and correct fit with the client representative(s).

Channels

Awareness: online magazines + presentations

Publish articles online and communicate what the business is doing – the interesting, cool stuff. Taking part in conferences to present case studies, lessons-learned and new/exciting innovations.

Evaluation: online forums

Online user forums are an easy place to find information on subjects for people.

Purchase: face to face

Be presentable and look good, not extravagant, but fit for purpose.

Delivery: personal

Be well-spoken and deliver.

Aftersales: face to face

Due to the long-term nature of the interaction and lessons to be learned it is imperative to provide good aftersales services, not only for the client but for the internal business' learning and development.

7. Cost structure

Capex

Currently business is conducted by exchanging a product for Capex. Clients need Capex to develop green or brown field projects.

Opex

Reduction in Opex cost due to more efficient use of input utilities.

Salaries

Paying for time of skilled people. Get great people and pay them well. Consult with the people and give them what they want (salaries, shares, bonus, time-off).

8. Revenue streams

Savings (cost)

Reduce the input of utility providers (power & water) and increase the use of onsite renewable resources to generate energy to increase savings and drive down utility cost.

Maintenance

Service level agreement to be entered between client and facility manager.

Selling time (salaries)

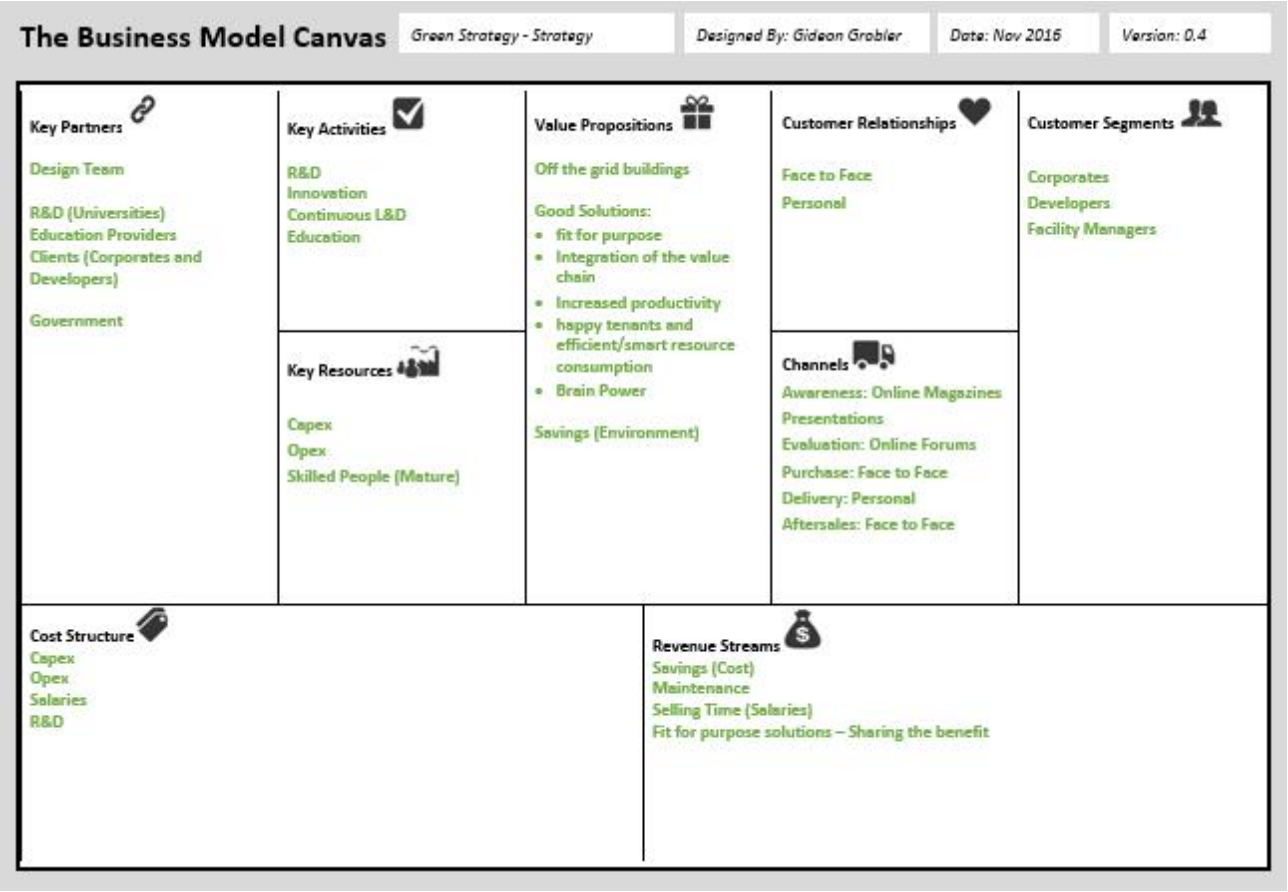
Provide clients with the correct resource at the right cost to add value for both parties.

Fit for purpose solutions + sharing the benefit

Provide clients with fit for purpose solutions, addressing the problems and needs of the client. Both the client and service/product provider can share in the up and down side by sharing the savings (cost) generated by the initiative.

Osterwalder Business Canvas: The Strategy

Figure 6.1: Osterwalder Business Canvass - The Strategy



Strategic vision + strategic objectives and strategy

Green buildings are the future and the market will grow as the demand for environmental sustainable products becomes more popular and robust, solving real tangible problems. Clients and society will be dedicated to do their part to save the environment. Doing your best might not be good enough, therefore we need to strategize to do enough to survive and thrive. Focus should be on the entire value chain of a product and to continuously improve the Osterwalder Business Canvas. Over and above the strategy listed and explained previously the following ket challenges should be kept in mind to accept, mitigate, transfer or avoid:

1. Value Proposition – The challenge is to drive change in the value perception of the end-user from cost saving to environment saving. At the moment buying decisions are made due to savings that can be generated by implementing green initiatives.
2. Partners – The challenge with finding good R&D partners is the Capex required to fund the human resources involved to produce R&D to create innovation; Therefore, who becomes the owner of the Intellectual Property?

3. Activities – The challenge within the internal functioning and cost structure of a business is to fund R&D which needs to be covered by the overhead with the business; Therefore convincing business to spend/allocate funding on R&D initiatives which might not render revenue but will incur cost.
4. Resources – The challenge to retain talent in a competitive market.
5. Customer Segments – The challenge is to get corporates to change decision making of initiatives from a cost decision to a value/longevity sustainable solution which includes cost, environmental and social impacts.
6. Customer Relationships – The challenge is on time management with the most appropriate individuals within the business to give them enough "air-time" with customers on a personal level to create sustainable value and make informed decisions.
7. Channels – The challenge is for businesses to communicate the value and R&D that they have with the market.
8. Cost Structure – The challenge is to fund non-billable time (salaries) to render R&D which might be a sunk cost which will not generate revenue; also considering the first to market principle.
9. Revenue Streams – The challenge is to convince customers to pay for more consultant time to find well defined and specific customer solutions addressing their specific long-term needs for sustainable solutions (environmental, economic, social).

6.1 VALIDATION OF OBJECTIVES

Primary objective

The primary objective was to determine a competitive strategy for green buildings in South Africa.

Validation of the primary objective was done in Chapter 6 with specific reference to figure 6.1 titled *"Osterwalder Business Canvass - The Strategy"* summarising the findings of the primary objective.

Secondary objective

The following secondary objectives were devised as a means to address the primary objective:

- To determine the conceptualisation of the green building and strategy variables according to the literature.
- Validation of the secondary variables was done in Chapter 2 for green buildings and Chapter 3 for strategy.
- To determine the current status of green buildings.

- Validation of the current status of green buildings was done in Chapter 5, with specific reference to Chapter 5.1 and figure 5.2 titled *"Osterwalder Business Canvass - Current"* summarising the findings of the secondary objective.
- To determine the future of green buildings.
- Validation of the future of green buildings was done in Chapter 5, with specific reference to Chapter 5.2 and figure 5.3 titled *"Osterwalder Business Canvass - Future"* summarising the findings of the secondary objective..
- To make recommendations for future research and practice.
- Validation of future research was done in Chapter 6 with specific reference to Chapter 6.2 titled "Future Research".

6.2 FUTURE RESEARCH

A follow-up study (longitudinal) can be executed to test and verify if the results are consistent and credible or to adjust the findings of this study.

The same study could be conducted in a 1st world country, for example USA to determine if there is a correlation between the results obtained in this study.

The same study can be conducted from the point of view of a developer in RSA.

BIBLIOGRAPHY

Acquaah, M., Amoako-Gyampah, K. & Jayaram, J. (2011). 'Resilience in family and nonfamily firms: an examination of the relationships between manufacturing strategy, competitive strategy and firm performance', *International Journal of Production Research*, 49(18), 5527–5544. doi: 10.1080/00207543.2011.563834.

Country watch. (2016). *Country reviews*. Retrieved from http://www.countrywatch.com/Intelligence/CountryReviews?CountryId=159

Darko, A. & Chan, A.P.C. (2016). 'Critical analysis of green building research trend in construction journals', *Habitat International*, 57, 53–63. doi: 10.1016/j.habitatint.2016.07.001.

França, C.L., Broman, G., Robèrt, K.-H., Basile, G. & Trygg, L. (2017). 'An approach to business model innovation and design for strategic sustainable development', *Journal of Cleaner Production*, 140, 155–166. doi: 10.1016/j.jclepro.2016.06.124.

Gabriel, C.A. & Kirkwood, J. (2016). 'Business models for model businesses: Lessons from renewable energy entrepreneurs in developing countries', *Energy Policy*, 95, 336–349. doi: 10.1016/j.enpol.2016.05.006.

Green building council SA. (2016). Retrieved from https://www.gbcsa.org.za/

Country watch (2015). Retrieved from https://www.countrywatch.com/

Hough, J., Thompson, A.A. & Gamble, J.E. (2010). *Crafting and executing strategy: Text, readings and cases*. 2nd ed. New York: McGraw-Hill Higher Education.

Janse van Rensburg, J., McConnel, C.R. & Brue, S.L. (2015). *ECONOMICS*. Second South African Edition ed.. New York: McGraw Hill.

Kruger, L.P. (2012). 'Developing operations' strategies – reassessing the strength and importance of competitive operations priorities for South African businesses', *South African Journal of Business Management*, 3(43), 13-28.

Laari, S., Töyli, J. & Ojala, L. (2016). 'Supply chain perspective on competitive strategies and green supply chain management strategies', *Journal of Cleaner Production*, 141, 1303–1315. doi: 10.1016/j.jclepro.2016.09.114.

Martin, R.L. (2010). 'Five questions to build a strategy', *Strategy*, Retrieved from https://hbr.org/2010/05/the-five-questions-of-strategy

Mintzberg, H. (1987). ‘Crafting strategy’, *Strategic planning*.

South Africa, Green Building Council. (2011). ‘Green Star SA Accredited Professional Course’, *Green Star SA Accredited Professional Course*, 1–85.

Spinelli, S., Adams, R.J. & Timmons, J.A. (2012). *New venture creation: Entrepreneurship for the 21st century*. Edited by McGraw Hill. 9th ed. New York: McGraw Hill Higher Education.

Strategyser. (2016). Retrieved from http://blog.strategyzer.com/

Tansey, P., Spillane, J.P. & Meng, X. (2014). ‘Linking response strategies adopted by construction firms during the 2007 economic recession to porter’s generic strategies’, *Construction Management and Economics*, 32(7-8), 705–724. doi: 10.1080/01446193.2014.933856.

United States Green building Council. (2016). Retrieved from https://www.usgbc.org/

World Green Building Council. (2016). Retrieved fromhttp://www.worldgbc.org/what-green-building

Zhang, X., Shen, L. & Wu, Y. (2011). ‘Green strategy for gaining competitive advantage in housing development: A china study’, *Journal of cleaner production*, 19(3), 157–167. doi: 10.1016/j.jclepro.2010.08.005.

Zuo, J. & Zhao, Z.-Y. (2014). ‘Green building research–current status and future agenda: A review’, *Renewable and Sustainable Energy Reviews*, 30, 271–281. doi: 10.1016/j.rser.2013.10.021.

APPENDIX A – INTERVIEW AGENDA

MBA Mini-Dissertation: Interview Agenda

Developing a competitive strategy for green buildings in South Africa.

I _____ hereby give Gideon Grobler a Student (student number 25732498) at the University of Potchefstroom consent to use the interview as data and information for his Mini- Dissertation as part of the MBA course.:

Interviewee demographics:

Age _____

Sex _____

Occupation _____

The objective of the study is to develop a strategy to compete in the green building market sector within South Africa.

Definitions of key words in the interview:

Green buildings are focussed on environmentally friendly and responsible initiatives, to reduce the negative impact and enhance the positive impact on the environment. To be more sustainable, improve occupancy experience, overall performance and efficiency across the entire life cycle of the product. Therefore improving sustainability from the cradle to the grave.

The **Opportunity** (if significant) that is to be exploited, will create and generate wealth. The opportunity is to be actioned through a competitive strategy (the roadmap of actions); the opportunity must satisfy the following five anchors:

1. Create or add significant value to a customer.
2. Fix a real problem.
3. The need of the customer must outweigh the financial implication of exchanging money for the value proposition.
4. The market must have robust margin, and profitability.
5. The human resources must be a fit with the requirements to create significant value.

Strategy is the action plan for running a business and conducting operations. The strategy is there to provide focus, to create value for new and existing customers, to grow the business and improve performance.

THE CURRENT (WHERE WE ARE NOW):

7. What do you think is the current status of green buildings?
8. What do you think is the current green trends?
9. Osterwalder Elements for Current:

a. Value Proposition

What value do we deliver to the customer?

Which one of our customer's problems are we helping to solve?

What bundles of products and services are we offering to each Customer Segment?

Which customer needs are we satisfying?

b. Key Partners

Who are our Key Partners?

Who are our key suppliers?

Which Key Resources are we acquiring from partners?

Which Key Activities do partners perform?

c. Key Activities

What Key Activities do our Value Propositions require?

Our Distribution Channels?

Customer Relationships?

Revenue streams?

d. Key Resources

What Key Resources do our Value Propositions require?

Our Distribution Channels? Customer Relationships?

Revenue Streams?

e. Customer Segments

For whom are we creating value?

Who are our most important customers?

f. Customer Relationships

What type of relationship does each of our Customer Segments expect us to establish and maintain with them?

Which ones have we established?

How are they integrated with the rest of our business model?

How costly are they?

g. Channels

Through which Channels do our Customer Segments want to be reached?

How are we reaching them now?

How are our Channels integrated?

Which ones work best?

Which ones are most cost-efficient?

How are we integrating them with customer routines?

h. Cost Structure

What are the most important costs inherent in our business model?

Which Key Resources are most expensive?

Which Key Activities are most expensive?

i. Revenue Streams

For what value are our customers really willing to pay?

For what do they currently pay?

How are they currently paying?

How would they prefer to pay?

How much does each Revenue Stream contribute to overall revenues?

THE FUTURE (WHERE WE ARE GOING):

10. How do you think the green building future will look like?
11. What do you think is the next big green “thing”?
12. What gaps do you think exist that is a potential opportunity?
13. What problem needs to be solved?
14. Osterwalder Elements for Future:

j. Value Proposition

What value do we deliver to the customer?

Which one of our customer’s problems are we helping to solve?

What bundles of products and services are we offering to each Customer Segment?

Which customer needs are we satisfying?

k. Key Partners

Who are our Key Partners?

Who are our key suppliers?

Which Key Resources are we acquiring from partners?

Which Key Activities do partners perform?

l. Key Activities

What Key Activities do our Value Propositions require?

Our Distribution Channels?

Customer Relationships?

Revenue streams?

m. Key Resources

What Key Resources do our Value Propositions require?

Our Distribution Channels? Customer Relationships?

Revenue Streams?

n. Customer Segments

For whom are we creating value?

Who are our most important customers?

o. Customer Relationships

What type of relationship does each of our Customer Segments expect us to establish and maintain with them?

Which ones have we established?

How are they integrated with the rest of our business model?

How costly are they?

p. Channels

Through which Channels do our Customer Segments want to be reached?

How are we reaching them now?

How are our Channels integrated?

Which ones work best?

Which ones are most cost-efficient?

How are we integrating them with customer routines?

q. Cost Structure

What are the most important costs inherent in our business model?

Which Key Resources are most expensive?

Which Key Activities are most expensive?

r. Revenue Streams

For what value are our customers really willing to pay?

For what do they currently pay?

How are they currently paying?

How would they prefer to pay?

How much does each Revenue Stream contribute to overall revenues?

WHO SHOULD BE INTERVIEWED?

15. Who would the interviewee recommend the researcher approach for an interview?

_____

Signature of participant

THANKS

Thank you for participating in the study and setting time aside to discuss the development and competitive nature of green buildings. Your insight provided is a valuable contribution to the study.

Your insight and willingness to share is greatly appreciated;

Gideon Grobler (the student)

APPENDIX B – INTERVIEW RESULTS TABLE

Developing a competitive strategy for green buildings in South Africa

MBA Mini-Dissertation: Interview Agenda		Respondent Details and Keywords Indicated									
	Age	31	38	32	28	51	31	63	72		43.25
	Sex	Male	Male	Female	Male	Male	Female	Male	Male		6XMale ; 2XFemale
	Occupation	Engineer	Engineer	Project Manager	Engineer	Engineer	Sustainability Consultant	Quantity Surveyor	Engineer		5XEngineer; 1XPM, 1XQS, 1XSustainabiliy Consultant
	Respondent Number	1	2	3	4	5	6	7	8		Findings
Item		Current	Current	Current	Current	Current	Current	Current	Current		Current
1	Value Proposition	Cost Saving (especially long-term); Saving the environment (conscious); Status (GBCSA Rating + bragging)	Operational efficiency; Image; Newness (innovation); cost saving; doing the right thing (moral obligation)	Life cycle cost; Incentives; Innovation	Savings (cost); Saving the environment and future generations;	If we do nothing we will destroy the world; Education; Value chain integration over the life cycle of a product; long term saving (cost + environment); we are passed cost driven decisions and rather sustainability decision driven; Brand status (now) norm (later) responsible investment;	Good solutions to safe money; green is becoming recognised in the built environment; reducing the impact on the environment; customer focus is on power saving and now water is becoming a focus area;	Occupancy productivity increase, therefore higher revenue generating ability; future assets value, higher sale value; easier to get tenants; Green buildings provide financial improvement to developers;	Green certification rating (bragging); Saving (cost) / (energy); Brain power - Innovation (risk - newness);		Saving (cost + Environment); Bragging (Image); Brain Power
2	Key Partners	Government; University (R&D); Industry (Renewables + Lights); GBCSA	GBCSA; Green Professionals	GBCSA; Banks (Nedbank); Government (IDC);	Government (funding and regulation); Commercial and Industrial Sector; R&D;	Measuring Specialist; Energy Specialist; planning specialist; performance contracting; awareness	Universities (R&D); Design Team; Material manufacturers; contractors; GBCSA;	Banks (Nedbank); Universities (R&D); Suppliers of renewable energy;	Design Team; Client;		GBCSA; Design Team; R&D (Innovation)
3	Key Activities	Customisation	IRR Calcs	R&D	Awareness; Innovation; ground breaking initiatives;	Identify problems; identify opportunities; measure; benchmarking;	Knowledgeable - technology, products, various building systems; education	Marketing - Promotion; Education; Inform stakeholders; Green Living Certification;	Know what others are doing; Spending time - 33% (nothing) + 33% (R&D) + 33% (billable work);		R&D (Innovation); Continuous L&D;
4	Key Resources	People - versatile and adaptable; Financial (Capex expenditure)	Skilled people; Green consultants	Capex	Information; Bank (Nedbank) Capex; Engineers; Problem Solvers; Problem identifiers; Consultants; Innovators; Creators; Universities;	Skilled people; Capex;	Capex; Skilled people; Natural Resources; Land (protect/enhance);	Skilled Consultants; Educated tenants;	Skilled people (Mature)		Capex; Skilled people (mature)
5	Customer Segments	Business Owners; Property Owners; Government	Big corporates (commercial)	High income	Corporate	All;	Corporates; Developers; Manufacturers;	Big corporates; universities	Corporates; Developers;		Corporates; Developers
6	Customer Relationships	Face to face; personal relationship	face to face; involvement	Face to face (due to high cost involved)	Personal; Reputation and reference based;	Awareness; reputable; face to face; personal; relationship driven	Personal; face to face; one on one;	Personal, customized; agile; Team ; Long-term; skills; Capex commitment	Personal; Face to Face; Trust and Partnership;		Face to Face; Personal
7	Channels	Awareness - Mass Media + Print Media	Reference (word of mouth); previous experience; online advertising (awareness)	Direct; Existing customers	Mass Media; Social Media; Internet; Technical forums; building magazines; conventions; Expo's;	Top management to buy-in; education; case studies; actual benefit;	Networking; Face to face; presentations (case studies);	Face to face due to complexity and Capex involvement;	Word of Mouth - Awareness; Personal; Face to Face; Client to find service provider from research and reputable references;		Awareness - Online + References; Info - Online; Sales 0 Face to Face; Delivery - Personal; After Sales - Face to face;
8	Cost Structure	Capex - setting up infrastructure Opex - Maintenance; Design Cost - Skilled People	Capex	Capex; Opex	Infrastructure; salaries	Capex; Opex	Salaries; Software (models)	Green consultants; Extra cost on building products;	Brain power (salaries); good design should be fit for purpose; there should be extra cost and time allowed fro planning and design to find an appropriate solution; Capex cost on green vs.		Capex; Salaries
9	Revenue Streams	Owner (return on investment; reduced utility cost; increased tenant occupancy); Tennant (status; new innovative products);	Savings; services;	Savings	Savings (cost); environmental initiatives; carbon trading; selling time (consultants)	Saving (cost)	Selling time (expertise); modelling	Productivity of occupants (comfort); maintenance saving (cost); lifecycle procurement;	Client payments for consultant time;.		Savings (cost Opex); Selling Time (design team)

10	What do you think is the current status of green buildings?	Fairly new concept in SA; Check box exercise; Still need understanding and buy in from customers	Bragging rights and image focus; large corporates involved; savings - cost and power usage	Expensive; Little return; Image and bragging; objective should be to safe the environment;	Not many buildings are green; focus is on commercial; focus on HVAC and Hot Water; Building regulations going green; Buildings 70% old 20% medium 10%new (efficient);	Focus on industrial and commercial; Still lots to be done; government is getting involved; RSA developing country; big corporates getting involved; demographics/ location of people a problem (distance - transport); Green is here to stay; buildings that are built to be sold are built cheap; developers (owners) built green due to lifecycle cost;	Clients do not fully understand green buildings; focus is on commercial buildings (get rating at min cost & safe energy/cost); GBCSA is leading education and awareness; not making a large impact; concepts are getting out into the market; green building is still in infancy stage;	Green is increasing in buildings; going through a learning curve, cost are decreasing; Corporates are going for entry level certification (4 star), the corporates are starting to go for higher ratings.; Developers are going from green buildings because they want a superior product; green culture is starting; green provides a competitive advantage; carbon trading;	Focus is on commercial buildings; still very wishy-washy that does not address the real problem; Corporates going for certification rating's for bragging rights (image); Energy is cheap in RSA; Utilization (increasing revenue and reducing high costs like salaries) of building more important than energy saving; biggest problem s industrial (mining, highest power consumption and energy use contributor in RSA; biggest and widest scope of green is in healthcare and shopping centres;		Bragging (Image); green is new and in infancy stage; focus on corporates; green is here to stay but not addressing the real problem yet with the focus being on cost saving and bragging;
11	What so you think is the current green trends?	commercial buildings most popular; Non Motorised Transport (NMT) going to get big (Government drive)	Green buildings becoming more popular; stress on available power; Keeping up with the Jones's	Awareness; Energy saving; waste recycling	Lights; PV (getting more affordable) easy way to generate power; Government is starting to get involved (SANS10400); Cheaper storage; right thing to do (need education practical); lower class focus is on cost (spending); movement is from industrial to commercial to residential;	Green is going to be part of procurement (same as BEE); focus is on energy use; funding is becoming available; SA was and should be the world leader in emissions declaration, regulation, and quality policies; saving energy and emissions;	Demand for green buildings are increasing; focus is on fit-outs of existing buildings; IEQ is starting to trend; (wellness certificate - USA);	carbon neutral; integration into the value chain and life cycle of the product; getting higher certification ratings;	Corporates bragging (CSR);		Becoming more popular; goverment getting involved; higher certification ratings sought; Fit-outs and IEQ;

Developing a competitive strategy for green buildings in South Africa

MBA Mini-Dissertation: Interview Agenda		Respondent Details and Keywords Indicated									
	Age	31	38	32	28	51	31	63	72		43.25
	Sex	Male	Male	Female	Male	Male	Female	Male	Male		6XMale ; 2XFemale
	Occupation	Engineer	Engineer	Project Manager	Engineer	Engineer	Sustainability Consultant	Quantity Surveyor	Engineer		5XEngineer; 1XPM, 1XQS, 1XSustainabiliy Consultant
	Respondent Number	1	2	3	4	5	6	7	8		Findings
Item		Future	Future	Future	Future	Future	Future	Future	Future		Future
1	Value Proposition	Off the grid (min input from external power and water) which reduces operating cost; Pumping power back into the grid; Less tools to install, easier to install initiative;	No longer cost driven but survival driven; safe the planet; reducing environmental impact	Make a real difference; Life cycle cost and total carbon impact;	Saving (environment)	Integrated value chain; Lead by example; Savings; Sustainability	Design buildings that are off the grid; 100% recycled materials; fit for purpose solutions;	Occupancy productivity increasing (happy users); green non-negotiable; people will not touch non-green buildings; fit-outs;	Green certification rating will fall away; CO and CO2 reduction; Service providers will dictate usage figures for power and water;		Saving (environment); off the grid buildings; Good solutions (value chain integration); increased productivity; fit for purpose solutions;
2	Key Partners	Government; Universities; Schools; Capex suppliers	Government	Government (municipal); Private (innovation); Government (policy); Education institutions;	Government; Community (schools)	Primary schools; Universities; Government;	Government; Building owners; building tenants; smart technology creators;	Government; developers; plant specialists (agriculturist);	Free market; power and water usage constraints given by utility supplier and educated responsible clients;		Government; Education Providers (Universities); Clients (Developers);
3	Key Activities	R&D; Learning and Development;	Innovation; R&D; Education	Education of the youth; Endangered species list; Managing change and innovation; Penalty system (higher than illegal activity)	Education; farming; re-use of resources	Innovative thinking; Identify problems; Identify opportunities; Continuous Improvement; education; Entrepreneurship; Development; the world needs to be educated on the current crisis and given practical examples to implement.	R&D; Maintenance;	Green living;	Do nothing 33%, Do R&D 33%, do billable work 33%; currently there is 1K1w/person for power and around n150Kw/person for transport, therefore transport is very inefficient and requires improvement;		R&D; L&D; Education; Innovation
4	Key Resources	Opex (maintenance human resources); Approved installers;	Skilled people	Capex; Education Providers	Sun; Wind; Water	Skilled People; Capex; Education	Capex; Skilled people;	Skilled consultants; educated tenants;	Skilled people (Mature);		Capex; Opex; Skilled people (Mature);
5	Customer Segments	People in poverty that get government funding	Big corporates; Small corporates; residential	Mass market when technology becomes more affordable; Corporate	Everyone; all industries; movement will ne commercial o industrial to residential;	Facility Management; Operations management;	Commercial; Residential	Corporates; Universities;	Corporate; Developers; Transport;		Corporates; Facility managers; Residential;
6	Customer Relationships	Maintain existing relationships;	Face too face; Video Conference; Online green packages based on selection and delivery (plug and play)	Face to Face; Internet	Awareness; selection via proven responsibility;	Protecting investment; performance driven; Monitoring;	Personal; Face to Face; one on one;	Personal; customized (agile), Team, long-term; Skills; Capex commitment;	Personal; face to face; clients will be desperate for good knowledgeable people;		Face to Face; Personal;
7	Channels	Internet based; Digital magazines / digital news papers;	Social Media	Internet; TV; Social Media	Digital interface; Face to face; transport of material; ease of sending and receiving info; user friendly;	Continuous awareness; communication; monitoring dash boards;	Practical examples; speed of interaction increased; benefit vs cost analyses;	Face to Face due to complexity and Capex involvement;	Internet; digital magazines; websites; User Forums;		Awareness - Online + References; Info - Online; Sales 0 Face to Face; Delivery - Personal; After Sales - Face to face;
8	Cost Structure	Service Plans; Salaries	Capex; Technology; R&D	Opex	Infrastructure; penalties;	More Opex than Capex; More maintenance than new builts;	Salaries	Green consultants; Extra costs on building products;	Cost will reduce on the human component (salaries;		Salaries; Opex; R&D;
9	Revenue Streams	Service Plans (SLA) - think mobile contact	SLA; Installation; Maintenance;	Savings; Government Initiatives (funding); Penalties;	Saving (efficiency / performance); maintenance;	Savings (cost); maintenance (combination of outsourcing and internal);	Maintenance, Time; practical use (fit for purpose solutions);	Productivity of occupants (comfort); Maintenance saving; life cycle replacement;	Shared Energy; client payments for human services;		Savings (cost); Maintenance; Selling time (salaries); Fit for purpose solutions;

12	How do you think the green building future will look like?	Will become mandatory and regulated; green will expand beyond commercial buildings	Focus on IEQ; Green will became industry norm	Growing into industry; Niche market; high income market; easier to obtain funding from bank(s)	LED lights; must/will go green; dual function equipment; lots of energy will be used but will be renewable; storage of lightening; green roofs; solar windows	City layouts / city services to be sustainable - challenge is the existing fabric of cities;	Plan, design and built off the grid buildings; focus on building life cycle (incl all martials); continuous improvement; regulation by government; carbon calculations, carbon trading;	Green will become the norm; Government regulation will be implemented;	Energy consumption figures will be dictated by the energy supplier and or competent client;		Green will be the norm and regulated; City layouts will be more sustainable and integrated (value chain); energy consumption will be dictated by client / supplier; off the grid buildings with dual function equipment and energy storage;
13	What do you think is the next big "green" thing?	Residential initiatives; industrial regulation;	Water re-use	Water re-use; sever clean at residential level; waste recycling at residential level; upgrading of municipal infrastructure; cleaning of water supply pollution;	Fuel cells; gym will generate power; bio gas;	Dual purpose equipment (multi-function products); Hydro power in rivers; integrating the value chain; harvesting energy from waves; cleaning sever at home; food waste use;	off the grid buildings;	Carbon footprint trading - buying and selling of carbon credits, this will impact/improve efficiency; Fit-outs, most buildings are brown fields and are inefficient;	Non HVAC buildings; Non Lighting buildings external input and will revert back ti natural state; transport will be "Tesla"		Sever clean-up on premises (commercial and residential); Fit-out of buildings (integrating value chain); Non-HVAC/Nin Lighting buildings;
14	What gaps do you think exist that is a potential opportunity?	Green Regulation of thee built environment	Corporates - water re-use on roof garden; dual purpose equipment	Municipal infrastructure upgrading	waste management; water re-use; Eskom will only provide distribution; technology is expensive	Waste re-use (especially food); water use (smarter);	Re-use of waste water and HVAC condensate; use of sea water for cooling (maybe flushing);	Geysers, under floor heating; furniture (FFE); retro-fit; green roofs; world green requirements are increasing;	Non HVAC buildings; Non Lighting buildings external input and will revert back ti natural state; Transport Kw to be less (currently 150Kw to 1Kw from power station);		Waste management (food, water, material, energy); Fit outs
15	What problem needs to be solved?	Education; Water scarce country;	Real life practical sustainability	Capex and Spending	There is only so much material/resources available; waste (to be more efficient)	Change perception; L&D; Education - start with children, practical education; get away from a quick fix and implement a long term sustainable solution;	Reduce the impact on the environment, water then emissions then energy;	More environmentally friendly building products/materials; owners need to be carbon neutral, for every bad thing we need to do a good counter thing; (use timber, plant tree);	Do more with less input, increased productivity, reduced waste and reduced external input (natural / unnatural); transport to be more energy efficient "Tesla"		Reduce the negative impact on the environment ; Education; Di more with less; We need to be carbon neutral and go into reverse (do more good than bad);