

EFFICIENCY through design

Interior Design Components for South African Shoprite Interiors which
Minimise Resources and Maximises the User Experience



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Submitted in fulfilment of part of the requirements for the degree Master of Interior
Architecture (Professional) in the Faculty of Engineering, the Built Environment and
Information Technology.

UNIVERSITY OF PRETORIA

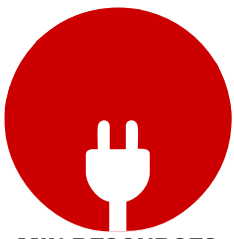
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December 2015



MIN RESOURCES



**MAX USER
EXPERIENCE**



**RELATE INTERIOR SPACE
TO THE BRAND PROMISE**



GUIDELINES



INTERIOR COMPONENTS

DECLARATION

I declare that this dissertation, which I hereby submit for the degree Master of Interior Architecture (Professional) at the University of Pretoria, is my own work and has not previously been submitted by me for a degree at this or any other tertiary institution.

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December 2015

FULL DISSERTATION TITLE:	Efficiency Through Design: Interior Design Components for South African Shoprite Interiors which Minimise Resources and Maximises the User Experience
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TOPIC:	Efficient Interior Design
PROGRAMME:	Enhancing the efficiency of South African Shoprite interiors through the design of interior components which balance utilising the minimum amount of resources and maximising the user experience in order to relate the store interior to Shoprite's brand promise.

The following project aims to demonstrate how **interior design** can **improve** the **efficiency** of South African **Shoprite supermarket interiors**.

This entails designing specific **parts** of an **interior model** for South Africa's largest retailer's most valuable brand, which balances utilising the **minimum** amount of **resources** and **maximising** the **user experience** in order to achieve efficient interior design.

This is to **relate** the **interior space** to the **brand promise** of providing the **lowest possible prices** in a **satisfying** and **convenient first world shopping environment** that is conducive to a **comfortable** and **enjoyable shopping experience**.

Utilising the **minimum** amount of **resources** demonstrates the impact of interior design on **energy**, **water** and **material efficiency** as well as the **indoor environmental quality**, which are the four interdependent regions which have the biggest impact on the interior environment. An appropriate interior design for Shoprite, which considers their core **target market** as **key**, further **maximises** the **user experience** by improving shopping **convenience**, **productivity** and **comfort** within the supermarket. Together, these aspects aid in representing the brand promise within the interior space, which is the interior designer's biggest contribution to the retail sector.

This indicates the possibility in **increasing** Shoprite's **financial turnover** by **lowering** the supermarket's **operational costs** and **increasing customer loyalty** towards the brand. Operational costs are lowered through lowering electricity consumption by specifying appropriate lighting solutions, equipment, materials and finishes; lowering water consumption by specifying low flow water fittings; and by using appropriate materials and construction methods within the new design. Customer loyalty is increased through differentiating the brand from its competitors beyond the products being sold, by establishing an appropriate brand identity in store which the target market can relate to and which fulfils their aspirations for a satisfying shopping experience which is convenient, healthy, comfortable and enjoyable.

In so doing, the **positive impact** of **interior design** on **everyday retail environments** is revealed, proving that **interior design** is not simply a luxury, but a **necessity**.

The project results in a set of interior design guidelines, informed by theory and driven by the interior design problems identified within the existing Shoprite supermarket design. These **guidelines** are **illustrated** in an example of a typical site, which was used to develop and test the **interior components**. In addition, the **flexibility** of the components is explored, in order for the solution to be **adaptable** to various existing and new **Shoprite supermarkets**.

Focusing on that which is in the **power** of the **discipline** of **interior design**, only **specific parts** of the supermarket are designed (the interior components). The components selected are those which have the **most potential** to make the **biggest impact** in terms of **minimising resources** and **maximising** the **user experience** within the supermarket. These interior components are: (1) the in-store **departments**, which include the Deli, Bakery and Butchery; (2) the **aisle navigation** in store; and (3) the **checkout area**. They have the potential to make the biggest impact in terms of efficiency by lowering operational costs and increasing customer loyalty, as discussed above.

The parts can be given to merchandisers to determine the final layout and visual merchandising of the supermarket as a combination of the parts, in order for the project to evolve into a roll-out strategy for Shoprite supermarkets.

KEYWORDS: Efficient interior design, minimising resources, maximising user experience, relating interior space to Shoprite's brand promise

Die doel van hierdie projek is om aan te toon hoe binneontwerp die doeltreffendheid van Suid-Afrikaanse Shoprite-supermarkte kan verbeter.

Om doeltreffendheid te bereik behels dat spesifieke komponente binne die supermark ontwerp word wat daarna streef om die minimum hoeveelheid hulpbronne te gebruik, sowel as om die gebruikerservaring binne die supermark te maksimeer.

Bogenoemde streef daarna om die binneruimte te laat ooreenstem met Shoprite se beloftes aan sy kliënte. Shoprite belowe sy kliënte dat die besigheid die laagste maandelike pryse in 'n bevredigende en gerieflike eerstewêreldse omgewing aanbied, wat gemaklike en genotvolle inkopies maandelik maak.

Deur die minimum hoeveelheid hulpbronne te gebruik, word die impak wat die binneontwerp op energie, water en materiale het, gedemonstreer asook die impak wat dit op die binnehuis-omgewingehalte van die supermark het. 'n Toepaslike binneontwerp vir Shoprite, wat hul kern-teikenmark belangrik ag, kan die gebruikerservaring verder maksimeer deur gerieflikheid, produktiwiteit en gemak vir die kliënt te verbeter. Al hierdie aspekte dien saam om Shoprite se belofte na te kom om die binneruimte op so 'n manier toeganklik te maak aan die kliënt, sienende dat dit die binneontwerper se grootste bydrae tot die handelsektor is.

Bogenoemde dui die moontlikheid aan om Shoprite se omset te verhoog deur hulle bedryfskoste te verlaag en die lojaliteit van hulle kliënte te verbeter. Die bedryfskoste kan eerstens verlaag word deur elektrisiteitsverbruik te verminder, deur middel van toepaslike beligtings-oplossings, toerusting, materiale en afwerkings. Tweedens kan waterverbruik verlaag word deur laevloei watertoerusting te gebruik en derdens deur gepaste materiale en konstruksiemetodes te gebruik.

Deur Shoprite van sy mededingers te onderskei, kan die lojaliteit van hulle kliënte versterk word deur 'n toepaslike identiteit binne die supermark te stig waarmee die teikenmark verband kan hou en wat hulle aspirasies vir 'n bevredigende inkopie-ervaring kan nakom. Deur dit te doen, word die positiewe impak wat binneontwerp vir die alledaagse handelsektor bied geopenbaar, wat bewys dat binneontwerp nie net 'n luuksheid nie, maar 'n noodsaaklikheid is.

Die projek lei tot 'n stel riglyne van hoe om die binneruimte te ontwerp. Die riglyne is gevorm deur gepaste teorie te analiseer wat die bestaande probleme binne die supermark kan help oplos. Die riglyne word dan binne 'n tipiese Shoprite-supermark geïllustreer wat gebruik was om die interieur-komponente te toets en te ontwikkel. Hiermeesaam word die buigzaamheid van die komponente ondersoek, sodat die oplossing toepaslik kan wees vir beide bestaande en nuwe Shoprite-supermarkte.

Aangesien die projek fokus op binneontwerp, word net spesifieke komponente van die supermark ontwerp. Die komponente wat gekies is, is dié wat die meeste potensiaal het om die doeltreffendheid van die supermark te verbeter. Dit sluit in: (1) die hoofafdelings binne die winkel, wat die Delikatessen area, Bakkery en Slaghuis insluit; (2) die ryngasie; en (3) die betaalpunte.

Die komponente kan dan aan die afsetbeplanner gegee word om die finale uitleg en visuele afsetbeplanning van die supermark te bepaal. Sodoende kan die projek ontwikkel in 'n doeltreffende implementeringstrategie vir Shoprite supermarkte.

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For the readers' convenience, the structure of the following mini-dissertation allows for easy access to each subsection of the project.

The study's questions – 'what?', 'why?', 'how?' and 'where?' are answered throughout chapters one to four. **'What'** discussed in chapter one, serves to **introduce** the project and explains the project's **intentions**. **'Why'** discussed in chapter two, clarifies the **design issue**, or the reason why the study is relevant. **'How'**, discussed in chapter three, analyses relevant **theories** which assist in finding appropriate means to achieve the design intention. Lastly **'Where'**, discussed in chapter four, includes the site analyses – in which the **areas of focus** for the project, the interior components, are identified. The rest of the chapter continues with the **design development** of the components and includes identifying additional interior design strategies or tactics (which serve as guidelines) to be applied to the interior components. The **design and technical resolution** is then illustrated in chapter five and the **conclusions** to the project are drawn in chapter six.

01 | INTRODUCTION

WHAT

1.1 INTRODUCTION

Chapter one serves as an introduction to the dissertation for the programme: Masters of Interior Architecture (Professional) in the year 2015. Firstly, the terms 'interior design' and 'efficiency' are defined, as 'efficiency' refers to 'efficient interior design' throughout the project. This is followed by the design intention, summarised in figure 1.3 seen below and properly stated in the premise, aims, objectives and research questions. The delimitations of the project and the method used to conduct the study are then discussed. Hereafter, the chapter is concluded.

1.2 DEFINITION OF TERMS

INTERIOR DESIGN

The International Federation of Interior Architects/Designers (IFI) (2011) defines interior design as: *"determining the relationship of people to spaces based on psychological and physical parameters, to improve the quality of life". We shape the spaces that shape the human experience.*

Interior design **forms space** that **responds to human needs** and thus creates environments that are productive, diverse, liveable, comfortable, healthy, safe, and beautiful (AIA 2008 and IFI 2011). In addition, the **design** of a space **determines** to a large degree **how** occupants **use** energy and other **resources** within that space (Steelcase 2007).

EFFICIENCY

Efficiency, in general, is defined as reaching **maximum productivity** with the **minimum utilisation** of **resources** or **effort**, to achieve **satisfaction** (Oxford Dictionary of English 2010).

EFFICIENT INTERIOR DESIGN

The term 'efficiency' used in this study, which refers to 'efficient interior design', therefore attempts to create a **positive relationship** between **people** and their **interior environment** by translating science into an enhanced quality of life. It strives to **balance** utilising the **minimum amount of resources** and **maximising the user experience** in order to **improve an interior space**.

1.3 DESIGN INTENTION

1.3.1 PREMISE

Interior design can enhance the efficiency and flexibility of Shoprite interiors through minimising resources by optimising energy, water, and material efficiency, as well as indoor environmental quality. Simultaneously, by maximising the user experience, through improving convenience and productivity by lowering effort – creating a comfortable and enjoyable shopping experience. This will aid in relating Shoprite supermarket interiors to the brand promise and thereby increasing Shoprite's turnover.

1.3.2 AIMS

To determine how interior design can improve the efficiency of Shoprite supermarket interiors, in order to fulfil the brand promise of providing the lowest possible prices in a satisfying and convenient first world shopping environment which is comfortable and enjoyable.

As previously stated, this will be done by implementing interior design strategies into the design of interior components, which utilise the minimum amount of resources and maximises the user experience. This is to demonstrate the impact of interior design on the energy, water, and material efficiency, as well as the indoor environmental quality, which to repeat, are the four interdependent regions which have the biggest effect on an interior environment. At the same time, it is to reveal the contribution interior design can make to the user experience by establishing an appropriate brand identity in store, that relates to Shoprite's core target market, and enhances shopping convenience, productivity and comfort. This can increase Shoprite's turnover by lowering operational costs and improving customer loyalty.

1.3.3 OBJECTIVES

- To identify innovative interior design practices that enhance the efficiency and flexibility of Shoprite interiors, by minimising resources and maximising the user experience, in attempt to deliver the brand promise within the interior.
- To develop these practises into an appropriate interior design language for Shoprite that relates to their living standards measure (LSM) 4-7 target market.
- To give an overall perspective on the effect efficiently designed interiors can have on the operational costs and sales due to enhanced operational efficiency, convenience, productivity, comfort, health, life-cycle and the ambience of Shoprite interiors.

1.3.4 RESEARCH QUESTIONS

1. How can interior design improve the efficiency of Shoprite interiors by minimising resources and maximising the user experience, in order to find a balance between the price of the products and the price of society – in terms of budget constraints versus a satisfying shopping experience?
 - 1.1 What are the national and international standards for efficient interior design which are appropriate to South African Shoprite supermarkets?
 - 1.2 How can efficiency aid in fulfilling Shoprite's brand promise of providing the lowest possible prices in a satisfying and convenient first world shopping environment, which results in a comfortable and enjoyable shopping experience?

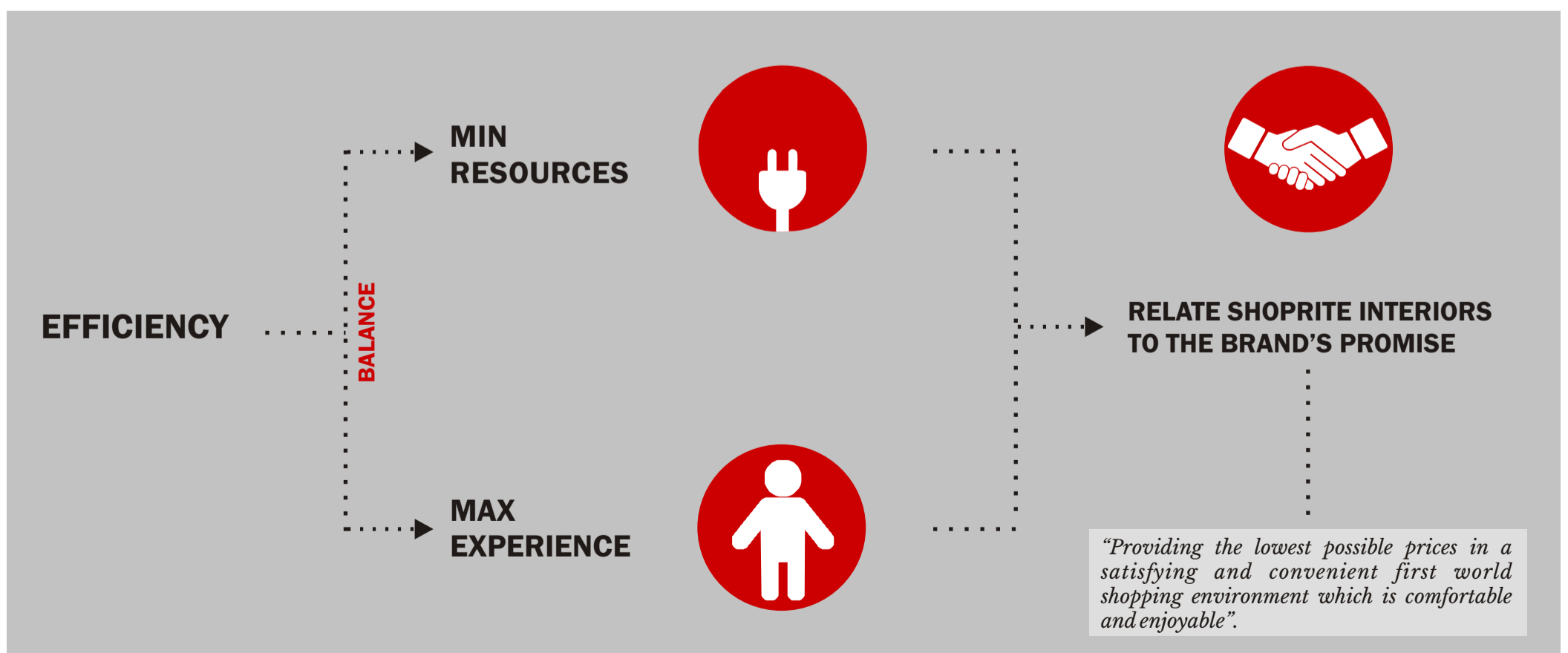


Figure 1.3: Diagram of design intention (Author 2015 - information gathered from Shoprite 2015b, 2015c; Shoprite Holdings 2014c and 2014e)

1.4 DELIMITATIONS

The project recognises that retail design is a complex and multifaceted environment which is dependent on a number of role players to successfully execute a retailer's design and identity. It can therefore not be solved solely by the interior designer. The investigation is so limited in that it only investigates and illustrates the role fulfilled by the interior designer within the retail design environment, opposed to those fulfilled by marketers, merchandisers or visual merchandisers for example. Furthermore, the study is limited to interior designs contribution to the South African grocery retail sector in particular, however retail design exists in many retail sectors in which an interior designer can be of great value. These include banking, corporate clothing and footwear as well as entertainment, among other sectors. What's more, it involves contributing to an appropriate interior design for the brand Shoprite specifically, who has a living standards measure (LSM) 4-7 target market. Their needs differ from those of other consumer markets. The design language will therefore differ from those required by other brands or grocery retailers, such as Shoprite Holdings' USave brand, which caters to the LSM 1-5 segment; their Checkers brand, who caters to the LSM 8-10 segment; or the grocery retailer Woolworths, who also caters to the LSM 8-10 segment for example. Lastly, the solutions are specifically based on South African Shoprite supermarkets, opposed to Shoprite superstores, Shoprite Hypers, or any Shoprite store found outside of the country.

It is important to note that the project will not result in a roll-out strategy for South African Shoprite supermarkets. The project will not focus on the **products** sold by the company or the visual merchandising, promotion, or education of the products. The project did require some research on supermarket layouts and visual merchandising in order to gain knowledge, yet it is vital to understand that this is not the focus of the study, since merchandisers are responsible for the layout and product placement and -displays. The project will consequently **not** result in an **ideal layout** for Shoprite, but specific parts of a layout - the interior components, which have the most potential to improve the efficiency of the interior environment through that which is in the power of the interior designer. As mentioned in the abstract, these parts can be given to merchandisers at a later stage to determine the final layout and visual merchandising in store, and thereby possibly come up with a roll-out strategy for Shoprite supermarkets.

Due to time constraints, three main interior components within the supermarket were chosen as the areas of focus. These will serve as examples of how the rest of the interior can be resolved efficiently by help of the guidelines set throughout the document. As previously stated, the three chosen interior components include: (1) the **in-store departments**; (2) the **aisle navigation**; and (3) the **checkout area**, as they are the areas with the most potential to improve the efficiency, as determined by the theory and the site analyses discussed in chapters three and four. The departments include the Deli, the Bakery and the Butchery. The **Deli**, with focus on the sales floor opposed to the back of house or kitchen area, serves as the detailed, key example of how the departments are to be resolved.

Further, detailed development is required for the remaining interior components in store, such as the Kiosk, the Money Market, the Fruit and Vegetable section and the Dairy section, to name a few. As mentioned, the guidelines set within this study can however assist in appropriately executing the rest of the design, as they serve as an example of how the interior design strategies should be applied.

1.5 METHOD

The **research strategy** used for the project, which refers to the structure of the process through which the research is done, is the method of **research through design** (Groat & Wang 2002).

According to Martin & Hanington (2012), research through design links theory and building knowledge to enhance design practices by examining the tools and processes of design thinking and making. This evolves examining secondary research, then combining it with exploratory research, where after the process of ideation, experimentation and critique takes place. Hereafter the designer reframes the problem as part of an iterative process to arrive at the best possible solution (Keyson & Alonso 2009 and Martin & Hanington 2012).

Through the process of research through design, the following **tactics**, or the specific techniques to be used for the research to be done (Groat & Wang 2002), are:

A two part **literature review**, which analyses ways for the interior designer to **maximise the user experience** and **minimise resources** within the interior. The literature review is design and research orientated to assist in defining, adopting and accurately executing the design. It involves using **qualitative theory** to gather facts and information on the topic(s) of research in order to develop case and site specific information, generate normative action and assist in successfully executing the project.

Local and international **precedent studies** with similar aspects to the research and design will be critically identified and analysed throughout the document in order to obtain further knowledge and to guide the design process.

Site analyses of four different sites in Pretoria are undertaken to identify the **general** successes and weaknesses in the existing design of Shoprite supermarkets, before design investigation and development can take place.

Lastly, the method of research through design is accompanied by **associations** as a **design method**. As explored by Doctor Raymund Königk in his doctoral thesis entitled "An Imaginal Interpretation of Interior Design's Methods of Cultural Production: Towards a Strategy for Constructing Meaning", associations as a design method for interior design is established. As interior design is a visual discipline which has the ability to generate meaning by creating connections in the human mind between various components, the use of associations in interior design has been proven very effective (Königk 2015). This method particularly assists the design development of the project in achieving an appropriate outcome. It aids in relating the design to the core target market, finding ways to interiorise the Shoprite brand, as well as analysing typological precedents to further improve the design.

* Kindly refer to page 56 under '6.2 Limitations to the Study' regarding the limitations to the research strategy (research through design) used.

1.6 CONCLUSION

This chapter served as an introduction to the dissertation by defining the key terms used throughout the study, and by expressing the design intension through the premise, aims, objectives and research questions. Clear delimitations to the study were set and the design method used to conduct the study was explained.
