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BDS 413:PROJECT PAPER

**INCORPORATION OF UNIVERSAL DESIGN PRINCIPLES AND ADINKRA
SYMBOLOLOGY FOR THE DEVELOPMENT OF ACCESIBLE AND APPEALING
SPACES AT THE STARDOM HOTEL**

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DECLARATION

I, Samantha Wangari Gichina , hereby declare that this research is my original work and has not been presented for the award of degree in any other university. All the sources and ideas of other scholars quoted or used, have been indicated and acknowledged by means of complete references.

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DEDICATION

This Research project is dedicated to The Almighty God for it is not by my own might but by His that this paper was written to completion.

I also dedicate this paper to my loving parents and siblings. To my mother, Agnes Nyokabi Gichina and my father ,George Kanyi Gichina, who despite the difficulties encountered through this journey, were always there to guide and support me to the best of their ability. To my sisters, Wanjiku Gichina and Wairimu Gichina, who always stood by me and encouraged me,I hope that I have set a good example for them and that they have been able to learn that one can achieve anything they put their mind to.

To my grandfather, the late Mr John Gitau, I also dedicate this paper. He always inquired about my education and always thought I had finished my university education. I have finally reached the end of my undergraduate education and as he cannot bear witness , I dedicate this paper to him.

My gratitude knows no bounds and the love I have for you all is immeasurable. May God continue to bless you.

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ABSTRACT

The importance of universal design especially in public establishments is indisputable. However as accessible tourism remains a new phenomenon in Kenya, and universal design principles are yet to take root in the hotel industry, comfort and satisfaction for a handicapped traveller in Kenya remains a pipe dream. With the lack of implementation of accessibility policies put in place in Kenya it remains the moral responsibility of the hotel owners to create accessible environments. This research aims to show how hoteliers stand to gain an increase in customer satisfaction and boost their market as they tap into this ignored niche.

With 4.44 million Kenyans being disabled (Global Disability Rights Now, n.d) inclusive design should be a rooted paradigm in the hotel industry by now. Accessible design is not only beneficial to the disabled but also to the able bodied. It benefits the elderly, children, individuals pushing strollers as well as people who have a temporary disability. Inclusive design should therefore be implemented in all aspects of design in the hotel so as to be used by everyone and to avoid accommodation only meant for “special needs” which may bring about a feeling of stigmatization for people living with disability (Pilarski and Rath, 2013). Inclusive design should span across all the categories of the built environment and design. It is imperative that the interior allow easy movement within the spaces and the accessories in the rooms are at a reachable height. Signage should also ensure the visually challenged can access tactile information as well as locate the signs through visual contrast. Wayfinding should also be taken into account through visual contrast as well as landscape accessibility through well knit paths for people with wheelchairs to pass comfortably and well lit environments for the visually challenged. Hotels should aim to make their customers can utilize independently and end up feeling like guests not as people with disabilities (Scandic, 2018).

Aesthetics should not be sacrificed for the sake of functional design. Universal design can be beautiful and functional all at once and this research aims to prove this. As aesthetics should be a big part of an accessible environment, what better way can Africans express themselves if not in their own authentic designs. Blessed with about 3000 tribes speaking 2000 languages (Atienza, n.d), Africa is boastful of a variety of techniques and art in architecture, textiles and artefacts. Symbols being visual expressions of a society's culture, knowledge, beliefs and history (Clarke, n.d), can be used in interior design to spread the wisdom of the forefathers as well as introduce a beautiful African aesthetic to the hotels. This research is aimed on the Adinkra symbols of the Ashanti. It will elaborate how these symbols can be used in the interiors, upholstery and products in hotels to bring about a beautiful aesthetic that spreads the positive messages embedded within the symbols.

As ‘good design’ is not only accessible but also sustainable, this research aims to show how hoteliers such as the Stardom hotel can use environmentally friendly material. By the researcher exploring the new materials that come from upcycling and the use of durable eco friendly material, they are able to highlight how sustainable design can be. The

emergence of gabion furniture in landscapes and wood-plastic composite materials ensures that there are less resources being used thus preserve trees. Upcycling and recycling of plastics can create strong , durable furniture as well as reduce the carbon footprint left by burning plastics in landfills. This research will open our eyes to how accesible, sustainable hotels can benefit the community as well as promote the African aesthetic.

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CHAPTER 1

1.1 OVERVIEW

The human race is full of people of varied ability and skills. Is there a way that design can cater for all these people's needs? This research seeks to study if this is possible especially in the hotel industry. This chapter highlights the problem the researcher aims to tackle as well as the objective of the study. It also highlights the significance of this study and the limitations to the study. The researcher also introduces the scope of study they used.

1.2 BACKGROUND OF THE STUDY

One cannot design in a vacuum, designers need to be conscious. As Ronald Mace said, universal design is the concept of designing all products and the built environment to be aesthetic and usable to the greatest extent possible by everyone, regardless of their age, ability, or status in life (Nygaard, 2018). A design should be made in a way that it should be usable to all users who wish to use it. Designs that do not cater for this are basically biased thus may not be termed as 'good design', and who doesn't love good design? If an environment is accessible, usable, convenient and a pleasure to use, everyone benefits not only the minority. It is usually interchanged with inclusive design and accessibility. In interior design accessibility is important as it determines how people will move within and enjoy the environment. The concept of accessible design dates back to World War II, when injured veterans modified their homes to adapt to disabilities (Williamson, 2019). It is therefore a long-respected philosophy.

Africa, our motherland is a haven of inspiration. With about 3000 tribes speaking over 2000 different languages, Africa is a hive of culture and heritage (Atienza, n.d). It is so rich in inspiration that it is perplexing how most of us are blind to its beauty. It has such a huge potential in design and art considering the indigenous Africans also expressed themselves through art. Different African cultures have so many artistic elements and principles that we could use as inspiration. One can look into the iconography of traditional African religions such as masquerades or ancestral figurines. Africa is also home to so many beautiful sceneries, patterns and symbols from different African tribes. Designers have been learning and implementing some of the processes done by African communities in

making their items such as the Ghanaian cloth dyeing process. Due to this, the researcher aims to also get inspiration from the African aesthetic. Interior spaces and furniture can be brought alive with the use of African symbology. Such symbols are like the Adinkra Akan symbols which the researcher aims to incorporate in her designs. Adinkra are symbols that represent concepts or aphorisms. Adinkra are used extensively in fabrics and pottery among the Ashantis of Ashanti Kingdom and the baoules who historically migrated from Ghana(Willis,1998). They are incorporated into walls and other architectural features. These meanings can bring a more spiritual feel and sense of connection to the interior spaces or products. The researcher aims to apply the symbols in the form and upholstery of her furniture.

Sustainability is a phenomenon that focuses on meeting the needs of the present without compromising the ability of the future generation to meet their needs (Borowy, 2014, p.3) . Daily, humans continue with their lives, creating, inventing, and throwing away items oblivious of the negative impacts their actions have on the environment. According to the UN, at the World Environment Day in Nairobi in 2018, more than 400 million tons of plastic waste is produced in the world annually. Shockingly, only 9 percent is recycled (efe-epa, 2018). Electronic waste, commonly referred to as e-waste, is also not recycled as expected despite it being nearly 100 percent recyclable or reusable. According to the United Nations report, only 16 percent of global e-waste produced in 2014 was recycled (Risen, 2016). Despite these disappointing findings, there may be hope for mankind. There are many designers coming up with sustainable products and many who are coming up with new ways of recycling and reusing already available materials and reducing the use of virgin raw materials in making products. Designers need to be conscious in their design process and that is why sustainable design is on the rise. Sustainable design is the intention to completely eliminate negative environmental impacts through thoughtful design. This concept can be applied across all fields of design such as designing buildings or products (Cullinan, n.d). It seeks to incorporate environmentally preferable outcomes. Major practices in sustainable design include recycling of materials such as glass, paper, cardboard, metal, plastic, textiles, batteries and electronics. Designers are constantly using recycled material in their designs as of now. Repurposing of items considered to be junk or garbage is also a practice that conscious people do. Up cycling has also come in handy

in sustainable design as the materials are not broken down to their original raw material during the process of making them new. This gives such materials as glass, steel and PET waste a longer life therefore less pollution. Many other practices and items are reused also and rethinking of what to use in a design has also become a tool used by designers to ensure sustainability of their designs. The researcher will aim to use these principles of sustainable design in her study.

Located along the Kasarani-Mwiki road, the Stardom Hotel is an international travel destination for both local and international tourists. It has facilities such as a garden, accommodation facilities which are ensuite, a VIP lounge, kitchen, bar and conference room. It is a recreation and accommodation facility that pulls in crowds of people especially families over the weekend as they offer African cuisines and have a lot of activities for families. They also offer conference room services as well. They tried to incorporate an aspect of African design in their wall pictures and photographs. This is however a misconception where many people think that having African animal pictures, they have achieved an African aesthetic. With all its facilities the hotel is ideal for groups of people and families to relax and hold events at. The researcher will study this hotel as a case study to ensure collection of factual data. The researcher will take into account all the strengths and weaknesses of the hotel in order to come up with the best recommendations for the place looking into the four major topics in interior design, that is, furniture design, exhibition and display, landscape design and interior architecture. The researcher will do this basing their solutions on universal design and African design.

1.3 PROBLEM STATEMENT

The designer of the hotel did not implement universal design considerations. The spacing in the lounge is limited for proper mobility especially for a person in a wheelchair to lack of ramps in the environment thus making it difficult for someone with mobility disabilities or in a wheelchair to access some facilities. The landscape also does not favor people with visual or mobility disabilities as it has raised manhole covers which they may trip over. The bathrooms also lack bathing chairs and the rooms lack easily reachable hangers. The sinks all through should have been left hollow beneath the counter for easy access by people in wheelchairs. Cabinets were however placed below the wash hand basin counters and are normally underutilized. The aesthetic of the hotel is also a miss, from furniture that

have mixed colors, boring forms and plain designs. The lighting also though enough, does not build on the ambience of the hotel and at times may seem deem to people with visual disabilities. The exhibition and display at the bar is also a bore and the space put aside for the bar is quite small. The reception also lacks aesthetic appeal and they could do more to add interest on the walls as the walls have little and small wall art. The researcher will endeavor to change these.

1.4 RESEARCH OBJECTIVES

The main objective of this study is:

To create accessible and aesthetically appealing environments with the use of African aesthetics by the use of Adinkra symbols at the Stardom Hotel.

The objectives of this study are;

- i. To investigate how accessible and inclusive hotel spaces in Nairobi are to allow for the comfort of travelers and customers living with any type of disability.
- ii. To investigate what other renowned resorts have implemented in their designs to ensure their environment is accessible and pleasing to the eye.
- iii. To carry out a study on how accessible and aesthetically appealing the spaces at Stardom Hotel are and how it affects the experience and comfort of its customers.
- iv. To make proper recommendations on how to better renovate and create an all-inclusive environment for comfortable use by all customers irrespective of their in capabilities.

1.5 RESEARCH QUESTIONS

2. What design criteria or considerations are usually taken to account when designing hotels to be all inclusive and to be used comfortably by even users living with disabilities of any type, be it mobility, visual or hearing impairments.
3. What design considerations have other hotels in Kenya and the world taken into account to ensure that their hotels are all inclusive and have an appealing aesthetic?
4. What facilities and services are present at the Stardom Hotel and are they accessible to all persons despite their ability? If not, what hindrances do they present?

5. What are the renovations that can be made at the Stardom Hotel to ensure it caters for the needs of its customers appropriately without exclusion or ignorance of the needs of persons living with disabilities?

1.6 SIGNIFICANCE OF THE STUDY

It is expected that this research will:

1. Raise the level of consciousness on the need of facilities that can be easily used by people living with disabilities in the hospitality industry.
2. Identify proper design aspects that can be used by hoteliers to ensure inclusive designs and accessibility in their hotels.
3. Set ideals and guidelines in hotel design to ensure protection and inclusivity of persons living with disabilities.
4. Reveal to upcoming hotel establishments how to implement proper themes and aesthetics especially African aesthetics in an appealing manner.

1.7 LIMITATIONS OF THE STUDY

- Time is the main limitation of this study as such a research requires about a year in order to undertake even market researches in order to see if your solutions will work. Due to this time for reevaluation may not be possible.
- Cost is also a limitation as there is also money used in the study. For participant observation it may require the researcher to use the hotel services which is a cost in itself. Also, the transportation costs may be hefty.

1.8 SCOPE

1.8.1 Geographical

The geographical location for this study is Kasarani. The case study, the Stardom Hotel and Hotel is located along the Kasarani- Mwiki road just off the Thika road super highway. There are many estates around the area thus many travelers and families use these facilities. It is however a concern that hotels in these areas lack knowledge on universal design considerations that should be implemented in hotels. Consequently, the researcher will conduct their research here.

1.8.2 Contextual

The context of this research is the hospitality industry. The researcher will base their research on the restaurant and accommodation industry. The researcher will use a case study of the Stardom hotel. Due to this the researcher will concentrate on design solutions implemented and examples from the hotel and accommodation industry.

1.8.3 Conceptual

The concept the researcher will use is universal design and the African aesthetic. This is because the research will be about inclusive design in the hotel industry. The African aesthetic will also be considered as the case study is a hotel in Kenya and the owner has tried to implement an African aesthetic.

1.9 CONCLUSION

This chapter highlighted the researcher's intention to study the possibility of hotels being accessible as well as aesthetically appealing. It stated the background of the problem as well as showed the significance of the study. It also narrowed in on the area the researcher aims to undertake the study, that is, the Stardom hotel. It also highlighted the limitations of the study.

CHAPTER 2

2.0 LITERATURE REVIEW

2.1 OVERVIEW

This chapter includes the design philosophies the researcher aims to base their research upon that is, universal design/inclusive design and African design. It contains their definitions and applications in interior design. Application in interior design has been identified by showing exemplars of people who use the principles and how they have used the philosophies. It also contains the design process the researcher will use.

2.2 UNIVERSAL DESIGN

Universal design is the design of an environment or product so that it may be accessed in the widest possible range of situations without the need for adaptation (Pilarski and Rath, 2013). It aims to create proper functional environments for people living with disabilities be it hearing disabilities, visual or motor disabilities. Despite this, the focus of universal design is not only on people living with disabilities but also targets people at different ages. The elderly, children, people of different sizes and forms, sick people, injured people or people with any discomfort also lie in this range. Universal design aims to cater for their needs too.

Universal design is often interchanged with inclusive design and essentially, they have little if not none of a difference. Universal design aims to achieve inclusivity as well as accessibility to all. Most accessibility criteria come from laws and policies that were designed to ensure barrier free access for specific disability communities (Holmes, 2018). This is why wheelchair access in architecture has become prominent therefore use of ramps and elevators.

Universal design has become an important design philosophy for many interior designers and designers in the built environment at large. This is because interior designers are essentially responsible for the security and comfort of the people interacting with the spaces and environments they create. These people also include the disabled who are estimated to make 15% of the world's population according to the World Health Organization (2011). According to the 2009 census, 3.5 percent of the Kenyan population are living with disabilities (NCPD, 2013). Interior designers need to consider the needs of these people as

they design. The researcher aims to study how and what considerations are implemented in the hotels and accommodation facilities to ensure the disabled guests feel like guests.

EXAMPLES AND BENEFITS OF UNIVERSAL DESIGN

There are many products and space designs that offer comfort and inclusivity of people living with disability. These include automated sinks that allow use by most regardless of age or disability, automated doors that assist people with impaired arm strength or any other disability and also monitors that allow people with hearing impairments to read what is being announced for example in airports or banks. Other products include moving walkways in airports, moving ramps/ramp escalators, reception desks with various heights, adjustable desks and washbasins, large surface light switches, braille pavements, braille handles on staircases and even large door handles.

Implementing universal design principles has many benefits such as your facility getting a competitive edge as it will meet the needs of all people. Everyone will also be able to use your facility in great comfort thus many more people can participate and enjoy the activities at your site. Apart from that implementing universal design shows that you respect everyone that visits or uses your space. Universal design is also flexible enough to be expanded and changed for future needs. With all these taken into account, the researcher will then aim to implement these factors in her designs.

2.2.1 PRINCIPLES OF UNIVERSAL DESIGN

The following is a table that represents the principles of universal design citing examples of how it is applied.

Table 2.1: Principles of Universal Design

Principle	The design	Examples for play spaces
Equitable Use	Is useful and marketable to people with diverse abilities	Motion-operated automatic doors

Flexibility in Use	Accommodates a wide range of individual preferences and abilities	Equipment, benches, chairs, etc. of different heights and sizes
Simple and Intuitive Use	Easy to understand, regardless of user's experience, knowledge, language skills, or current concentration level	Simple signage easy for all people to interpret
Perceptible Information	Communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities	Wall, floor, and sidewalk art communicates location
Tolerance for Error	Minimizes hazards and the adverse consequences of accidental or unintended actions	Paint splatters on the art room wall allows for children's mistakes
Low Physical Effort	Used effectively and comfortably with a minimum of fatigue	Seamless transition in flooring and playground surfacing
Size and Space for Approach and Use	Provides appropriate size and space for approach, reach, manipulation, and use regardless of users' body size, posture, or mobility	Extra-wide doorways and entries to equipment

Note: Reprinted from “Seven Principles of Universal Design”, The Centre of Universal Design, 1997

2.2.2 UNIVERSAL DESIGN IN INTERIOR DESIGN APPLICATION OF UNIVERSAL DESIGN IN HOSPITALITY AND RECREATIONAL FACILITIES

1. MAGNUS BERGLUND –SCANDIC HOTELS

Magnus Berglund is an innovator and accessibility ambassador in Scandic hotels. He was among the first people to really look into universal design in the hotel industry. He begun challenging the accessibility in hotels after he became sick in 1999 and became disabled. At the time, he thought he knew everything about the hotel industry, having worked in the industry for more than 12 years. However, after becoming disabled due to rheumatism, he realized there was so much that was ignored in the industry.

At the time, accessible tourism was not common. The hotel services weren't really thoughtful when it came to people living with disabilities. After Magnus fell ill, he couldn't walk well. He became handicapped and at the time couldn't walk more than 2 meters with ease (Sommet, 2015, 5:06). During this time, he had to take a trip from Stockholm to Copenhagen and that is where he noticed how difficult it was for someone with a disability to travel and find appropriate lodging in hotels.

He noticed through his trip that unlike airports, hotel services were not favorable to people with a handicap or living with a certain disability. The countertops at the receptions were too high therefore rendering it difficult for someone in a wheelchair to reach and sign papers or receipts. When he went to pick a cup of coffee, the cups were also placed too high on shelves instead of being placed on the reachable counters. The toilets for disabled individuals were also quite unreasonable as it was difficult for a disabled individual to close the door (Sommet, 2015, 7:22).

Because of this, Magnus got inspired to come up with inclusive designs that could accommodate people with any kind of disability. Magnus decided to approach the Scandic hotels and offer his services saying he could raise their business by helping them create an environment suitable for people living with a disability. As his first order of business, he put the staff in wheelchairs for a couple of days and asked them to go about their duties in the hotel (Sommet, 2015, 6:40). This enabled them to see how difficult it was for disabled individuals to go about their tasks in the hotel with the available desks, toilets and even beds.

Due to this, the Scandic hotels begun implementing inclusive designs in their hotel and handicap rooms. With Magnus Berglund as their disability ambassador they have come up

with hotels in the Nordic region that are very inclusive. They have built more than 150 rooms for people with disabilities and renovated their hotels accordingly.

SCANDIC HOTELS UNIVERSAL DESIGN INSPIRED FEATURES.

Some of the universal designs implemented in the scandic hotels include using doors in the hotel that are at least 80 cm wide so that guests can get through in a wheelchair, crutches or a walking frame. They have also put hand rails on the inside of doors at a height that can be accessible from a wheelchair. This makes it easier for someone in a wheelchair to close the door.

In the washrooms, they have installed single-grip mixer taps or automatic taps. The washbasin itself is placed at a minimum height of 78 cm so a wheelchair will fit under it. The hook, soap and hand towels are also placed at a height that is easily reachable. The toilet paper is also placed at the armrest of the toilet so that it is easily reachable. For the bathrooms, there are special plastic stools placed in them for people who cannot stand in the shower. The soaps and shampoos are reachable and the showerhead can be adjusted to its lowest level.

Inside the rooms it is no different. They have taken every consideration possible to accommodate those with any disability. They have a height adjustable bed. The telephone is also placed on the bedside table along with the remote control. There is also a space of at least 80 cm around the bed. This allows for easy movement especially for people with mobility problems. Hooks for hanging bags or clothes are also placed at different heights so that they can be easily accessed from a wheelchair. The mirror is also at a suitable height for wheelchair users as well as standing guests.

The beds are also reclinable for people with back problems. The desks placed in the rooms are big and have enough clearance for a wheelchair user. Apart from that there is at least 80 cm width of floor space left on one side of the bed so a wheelchair can fit (Accessibility at Scandic, n.d). There is a vibrating alarm clock placed under pillows which also acts as a fire alarm for guests who are deaf. They also offer hearing loops at meetings. Apart from that they have safety instructions written in braille, a lower reception section and the buffet table is accessible by everyone despite height.

These design traits in the hotel have raised its business as it is the first choice for any traveler with a disability. The hotel staff are also trained on ways to make the life of guests living with disability better in the hotel. This makes people living with disabilities feel they are treated as guests at Scandic hotels not as people with disabilities.

2. BURREL FOLEY FISCHER

Burrel Foley Fischer are among the leading architectural companies in Europe. They have been in cooperating elements of 'good design' in all their spaces and buildings for the longest time. Their spaces and buildings are always sustainable and offer easy accessibility for everyone. They consider widely people living with disabilities in their designs.

They always ensure their designs are inclusive to everyone whether with visual impairments, hearing impairments or certain handicaps. Apart from that their spaces can be easily used by old people, pregnant women and women with infants or parents with small children. They take all the minority into consideration not just designing for the 'average' man.

THE DEPOT CINEMA

One of Burrel Foley Fischer's innovative spaces is the depot cinema. They were commissioned to build and design this cinema at the existing warehouse of the old Harvey's brewery depot. The three-screen cinema was meant for use by the community. This therefore needed them to be considerate and make sure every individual in the surrounding area could utilize the cinema comfortably.

The depot cinema has many services and features that are well aligned with universal design. The cinema even won an award for accessibility. It was awarded the Selwyn Goldsmith Award for Universal Design. The project aimed to create a welcoming and accessible facility for the residents of Lewes, where it is situated. Local access groups were actively engaged with the project from early design stages and through construction to provide guidance on often little understood issues such as people with dementia, for who they provided special screenings(Depot wins National Design Award for Accessibility (DWNDFA), 2017).

Apart from offering special screening, physical access to all facilities has been incorporated in the design of the depot cinema from arrival. There are two onsite disabled parking bays and ramped access to the main entrance. Contrasting paving is also present in order to guide blind and visually impaired visitors to the main entrance. The gravel paths and ramps are resin bonded making them wheelchair friendly. There are automatic sliding doors at the main entrance therefore catering for any person who may have arm weakness or handicapped in any way (DWNDAFA, 2017).

All the sales points in the cinema are designed to incorporate anyone in a wheelchair. There are also accessible toilets and also in the auditorium a choice of wheelchair positions has been provided which is not only limited to the front rows and are integrated with the main body of seating. This integration allows the person in a wheelchair to sit next to their able-bodied companions. There is also provision of space for guide dogs. Careful consideration was also given in the interior decoration to provide the appropriate level of contrast between elements such as handrails and the surfaces they are against and door leafs and door linings to aid people with visual impairment. Braille signage is also provided all through (DWNDAFA, 2017). The depot cinema truly is to be commended for the inclusivity in its design.



Figure 2.1: Budge,H (2019), Spaces left in the depot cinema for wheelchair users to seat with their able -bodied friends. (photograph), retrieved from: <https://celluloidjunkie.com/2019/05/16/green-screens-a-profile-of-the-carbon-neutral-depot-lewes-united-kingdom/>

2.3 AFRICAN DESIGN- ADINKRA SYMBOLS

Adinkra is visual symbols created by the Akan of Ghana and the Gyaman of Cote d'Ivoire in West Africa. They represent concepts of aphorism, which means they are like short sayings that are intended to express a general truth. Some people believe the Adinkra

symbols were created by the Ashanti but this is not the case. It is believed the symbols were created by the Akan while the name Adinkra is said to have been the name of the king of the Gyamans.

According to legend the king was defeated by the Asantes of Ghana and captured for copying the golden stool, a symbol of power for the Asantes. He was eventually killed and his kingdom seized. However, as legend goes, the Asantes copied the Gyaman symbols that King Adinkra wore on his patterned cloth and infused it into their kingdom. The Adinkra symbols were then born (Obioha, 2011).

Between the 19th century, when the symbols were first recorded in modern times, the use of Adinkra symbols has increased. Adinkra symbols have been used widely from woodcarvings, furniture, fabric, walls and pottery as well. They have also been used as decorations on artwork. They hold a deep significance as they remind us that various aspects of African cultures are deep as they are beautiful (Obioha, 2011).

The adinkra symbols also represent popular proverbs and maxims, record historical events, express particular attitudes or behavior related to depicted figures, or concepts uniquely related to abstract shapes. It is one of the several traditional clothes produced in the West African region as other well-known cloths such as Kente and Adanudo (Evans, 2020).

2.3.1 EXAMPLES AND MEANINGS OF ADINKRA SYMBOLS

There are many popular adinkra West African symbols. They are simple but beautiful symbols done in one color and representing a phrase in the Akan dialect. Below is a table showing some examples of adinkra symbols.



Figure 2.2: John Takai,(n.d), West African adinkra symbols, Retrieved from: <https://www.123rf.com>

The researcher will incorporate these symbols in their solutions as the researcher aims to spread positive messages in their designs. The researcher will implement the symbols in the form of the exhibition and display stands at the bar section of the restaurant and the symbols in the walls of the restaurant to increase the aesthetics.

2.3.2 APPLICATION OF ADINKRA SYMBOLS IN DESIGN

1. CHRISSE AMUAH

Chrissa Amuah is a London-based designer with roots in Ghana, Benin and Togo(Chrissa Amuah:Home Interiors with the Adinkra Touch, n.d). She is the founder of AMWA designs. She is a talented design entrepreneur inspired by Ghana's Adinkra symbols, reinterpreted in a contemporary way. Amuah who grew up in London's Brixton neighborhood feels a strong connection to her African heritage. An important part of her designs is Adinkra symbology, which stems from a Ghanaian oral history tradition and is a visual way to communicate important values. These symbols are re-interpreted in her designs, from the obvious to the very subtle. In particular the values of 'wellbeing and social harmony' are powerful drivers in Amuah's use of the symbols (Chrissa Amuah:Home Interiors with the Adinkra Touch, n.d).

Amuah aims to create African inspired design solutions that are relevant for today's sophisticated marketplace, and for clients who want to put a uniquely evocative stamp on their personal and work interiors. Her work reflects her design ethos and passion for celebrating her own African roots and heritage, but with a contemporary flair that is her

own(Chrissa Amuah, a talented design entrepreneur inspired by Ghana's Adinkra symbols, reinterpreted in a contemporary way,2019). She says Africa has a heritage and cultural currency that should not be forgotten. It therefore saddens her that on her trips to Africa she could see economic growth and social growth that is based on a western template. She believes that African progress should be authentically based on the beauty of Africa's own and original narratives. She uses the Adinkra to interpret what that 'progress' should look like.

Chrissa's company, AMWA Designs produces a wide array of products which comprise of cushions, lampshades, coffee tables, wallpaper, and fabric and handcrafted home wares. She incorporates the adinkra symbols in her wallpapers that she uses in her interior spaces to make statement walls. She also incorporates the symbols in the patterns and designs she uses in her textiles, textiles which she in turn uses in her pillow cases and throws and also in chair upholstery.

She also offers bespoke design services for clients. Her next venture is a line of outdoor furniture. She also wishes to one day take on a 'fully integrated' interior design project where she can put her stamp in every single room, from the living room to the bathrooms. She would like to work with tiles as she believes one can do so much with amazing tiles.



Figure 2.2:Chrissa Amuah, furniture with an Adinkra symbol of Aya meaning endurance

2. VICTORIA AGYEPOMAA

Victoria Agyepomaa is a Ghanaian artist who specializes in handcrafted art. She got into the arts field in 2004 by selling calabashes at their art Centre. Her mother planted the gourds and in time she learnt how to grow and prepare the calabashes herself. She later moved to Accra to live with her aunt. Here she went with calabashes and she sold them. She had a customer who ordered a lot of the calabashes in order to make kora guitars. This was her first money making business (unicef Market, n.d).

In time she ventured into selling lazy chairs and later begun learning how to make different crafts. She was intrigued by how artisans carved beautiful objects from wood. She realized so many designs could come up from carving. She therefore learned how to carve from wood and also learnt how to do the finishing and painting.

Abdul Aziz, a NOVICA featured artist taught her how to finish her work. She had to be attentive and listen to him keenly in order to sharpen her craft. As of now she also has two apprentices who she also trains (unicef Market, n.d). She uses paints that are lead free but they are difficult to come by. One of her other challenges is when making new items that require new materials. Other materials she uses in her works include the sese wood, glass beads and brass.

She gets her inspiration from African traditions most especially those of her homeland, Ghana. Some of her inspirations can be clearly seen in her stools and crafts. Also, her masks show and bear rich cultural influence. She is among the artists inspired by the adinkra symbols. She has incorporated these symbols in the form and structure of some of her creations.

THE ADINKRA SANKOFA STOOL BY VICTORIA

One of Victoria's best-known stools is the adinkra sankofa stool. The stool is inspired by adinkra symbology. The stool is made and crafted by hand from sese wood. It is also accented with brass triangle motifs. At the top of the stool, where people seat, there is a sankofa bird portrayed. The sankofa bird is depicted with multicolored beads of recycled glass.

Its form has its origins from the shape of a stylized heart. This symbol encourages us to learn from the past. The bottom part of the stool is carved in the shape of one of the Akan Adinkra symbols. It is carved to form the Akan symbol that reads 'Gye Nyame'. This symbol symbolizes the supremacy of God as when translated it means 'except God'.



Figure 2.3: NOVICA,(n.d), The Sankofa stool with the Gye Nyame symbol meaning supremacy of God.Retrieved,from:<https://www.amazon.com/NOVICA-Animal-Multicolor-Adinkra-Sankofa/dp/B06XKBM2JP>



Figure 2.4: NOVICA, (n.d) ,another of Victoria's stools inspired by the symbol Mpuannum meaning loyalty. Retrived from: <https://www.novica.com/>



Figure 2.5: NOVICA, (n.d), Stool by Victoria with beaded symbol of Akoben meaning vigilance. image source: <https://www.novica.com/>

2.4 SUSTAINABILITY.

Sustainability focuses on meeting the needs of the present without compromising the ability of future generations to meet their needs (Emas, 2015). Sustainable design is the intention to reduce or completely eliminate negative environmental impacts through thoughtful designs. It aims to reduce consumption of non-renewable resources, minimize waste and improve performance.

2.4.1 Rs OF SUSTAINABILITY

The Rs associated with sustainability are rethink, refuse, reduce, reuse, recycle and replace. The three main ones are, reduce, reuse and recycle. First you reduce the number of resources you use, then you reuse materials more than once before throwing them away and finally you recycle the waste products that you cannot reuse.

These can be seen daily in the lives of conscious individuals and countries. Some examples include the reuse of shipping containers to make houses and shops, recycling of plastic bottles to make fabric, pavers made from plastic waste, repurposing of old furniture and in the reduction of use of plastic bags in some countries such as Rwanda and Kenya.

2.4.2 RECYCLING AND UPCYCLING

Recycling and upcycling are major methods being used by various designers and innovators to create a sustainable cycle. Recycling is the process of turning waste into

reusable material or product (Sinai , 2017). In most cases of recycling, the formed product is usually of a lesser quality than the initial product. Upcycling on the other hand is a specific form of recycling in which waste material is made into a product of higher quality (Sinai, 2017). Upcycling could also result in the recycled good retaining its initial latent value such as in the recycling of soda cans back to reusable soda cans.

Many designers are actively participating in recycling or using recycled materials to make new products. Among these designers there are those designers who have further bridged the gap in sustainable design by upcycling these materials and giving them longer life. The researcher will aim to also use recycled or upcycled materials in her design in order to be a conscious designer.

2.4.3 APPLICATION OF SUSTAINABILITY

1. ARTHUR HUANG-CEO MINIWIZ

Arthur Huang , founder of Miniwiz, is an innovator, architect and engineer who has specialized in post-consumer trash recycling applications (Innovation Talk,From trash to Design, 2016). He is a guru of recycling and upcycling. Since 2005, his company, Miniwiz, has built, engineered and designed close-loop infrastructure from recycled e-waste, food-waste, car waste and packaging waste.

As a designer he is very passionate about the use of already available products to come up with new products. He has said to a journalist before that, “Trash is an abundant and highly valuable source of premium grade plastics, metals and fibers, all perfectly good materials to be used and reused time and time again.”(Goldapple,2016). His company focuses on using waste as a resource to make recycled and upcycled products that people actually want to buy.

The first product his company launched was the HyMini. This was a portable wind, solar and hand-crank power generator made from recycled electronic waste plastic and post-consumer paper. The device was a zero-carbon footprint charging product. Some of his other works include iPhone covers made from rice husks, wine bottle carriers made from recycled motherboard casings, sunglasses made from recycled CDs.

Over time Miniwiz has adapted and evolved from a company dealing with recycled materials to one that is now more interested in upcycling materials. They have come up with many building materials from upcycling cigarette butts, waste fiber, polyester, shoes among many other waste materials. Some of the products he has made from the new materials include sunglasses, furniture and building materials from cigarette butts, and pillow cases from upcycled polyester and polli bricks from upcycled PET.

POLLI-BRICK

One of the most iconic innovations by Arthur Huang is the Polli-brick building material. Huang's Polli-brick is made out of upcycled PET. Consumer PET (polyethylene terephthalate) bottles are normally thrown out as waste and end up in the environment. Huang recycled these PET waste and polystyrene to make walls.

PET waste is recycled to make a hollow building block. The Polli-bricks are manufactured from over a million recycled plastic bottles melted down and re-engineered into a new bottle-like shape. The blow-molded Polli-bricks feature interlocking grooves that fit tightly together therefore avoiding the need for any chemical bonding agents (Wang,2017).

The EcoARK pavilion in Taipei is an example of a building built using the Polli-bricks. It was constructed in 2010 and has been standing strong since then. The eco-friendly building is made of the interlocked Polli-bricks mounted onto a structural steel frame. Although the building weighs half as much as the convectional buildings, it is resistant to earthquakes and typhoons. It can sustain winds of up to 130 km per hour (Wang, 2017).

The air inside the polli-bricks provides insulation for the building and rainwater is collected to keep the building cool. The transparency of the bricks also allows natural light to illuminate the interior during the day(Wang, 2017). This therefore makes the building use less power in lighting and heating of the building. The interlocking quality of the bricks also add to its longevity as it still allows for reuse, this is because it makes disassembly easier and does not ruin the integrity of the material. Disassembly is one of the minor factors which contribute to sustainability. We can accurately say Huang is keeping to his mantra, 'new materials at lower cost and higher performance.

2. JORIS VANBRIEL

Joris Vanbriel is one of the co-founders of a company called ecoBirdy. He started this company with his friend and fellow designer, Vanessa Yuan in Antwerp Belgium. They formed the company with an aim of creating solutions for environmental problems using innovative technologies. Their concentration was on the recycling of waste before it ends up in the ocean.

Eco-Birdy have concentrated on recycling plastic toys to give them a second life instead of them ending up as garbage which may end up polluting the environment. They create design products that enable kids to experience creativity while raising awareness about sustainability. They recycle plastic toys to make children furniture and at the same time they also educate primary school children about plastic and marine pollution (Proske, 2018).

The designers collect plastic toys at school and then sort them manually at workshops. They sort them in order to ensure they do not have any undesirable materials such as batteries and textiles (Living circular,2020). They then transport them to professional recycling centers where they are grinded in large volumes, cleaned, sorted into colors and transformed into second-life products.

The children furniture eco-Birdy makes are made from 100 percent recycled plastic(ecoBirdy: A European Toy Story, 2018). With every ‘Charlie chair’ made, as their iconic children chair is called, 2.9 kg of plastic is saved from being incinerated, landfilled or ending up in the ocean. Because of this, also 7.25 kg of carbon dioxide emissions are avoided.

THE MATERIAL ECOTHYLENE FOR FURNITURE

Joris Vanbriel and his partner aim not only to create furniture from 100 percent recycled material but also to make furniture that can be recycled again. It was essential to them to create their products from material that could be recycled again.

They researched and worked extensively to make a material that would allow them to create colorful furniture without using any additional pigments or resin. The material is smooth and at the same time beautiful and easy to clean. It also has a silky look. Ecothylene material is colorful as a result of proper sorting and use of state-of-the-art technology. This

material has changed the grayish, dullish and not very attractive feature of recycled materials.



This material has an improved binding formula for polymers. Because of this ,no new plastics need to be added to it. This makes it more eco-friendly than most recycled plastics. Because of the production process of this material and its products, each product is unique.

Figure 2.7: Eco birdy children furniture made from the material ecothylene. (EcoBirdy,n.d)

The speckled pattern achieved in the process is never identical. As much as ecothylene is light and easy to move, the production process results in one piece which guarantees high strength and robustness.

2.5 DESIGN PROCESS

1) Define a problem

This stage of the design problem is the first and the most important. This is where the researcher will identify a problem that exists and determine its root cause. They will gather information about the problem in order to get more insight about it. The researcher will also start with this step in their study. The researcher having identified their case study, will aim to define the problems of their case study in order to be able to provide solutions to the problems. The researcher will also ask the client that is the owner of the hotel the

researcher is using as their case study, if there are any problems they have also noted themselves.

2) Research and generate ideas

In this step, research is done on the reasons for the need, want or problem. Investigation about who is affected or what is affected is done and consideration of the wants or needs are looked at from their perspective. The researcher will also do the same. The researcher will research on the target audience and look at the problem from their view. The researcher will consider the perspective of the users or beneficiaries of the study. The researcher will also research on any existing solutions and identify why they are not adequate. This will enable the researcher to get the gap. The researcher will look at the existing solutions implemented at their case study site and analyze how effective they are. The researcher will also look at how viable their research is, that is how marketable the solutions are. Will the solutions add the income of the client?

3) Identify criteria and specify constraints

In this step one gets to find out what the solution must do and identify the limitations they must work within. The researcher will therefore find out the constraints of their research in order to give the most appropriate solutions that can be implemented taking into consideration the end user if the client is not. In this case the end user is the users of the hotel that is the researcher's case study.

4) Develop a design proposal and write a report.

After proper research and analysis, this step is where one clearly gives their solutions and sketches if any. Here materials in which their solutions will be constructed from are specified as well as computer models made. Here the researcher will make clear their findings and recommended solutions including sketches and illustrations. The researcher will also write a report as a way of presenting their findings.

5) Make a model or prototype

The researcher will finish their study by fabricating prototypes and models of their case study having implemented their recommended solutions.

2.6 CONCLUSION

This chapter highlighted the importance and application of universal design citing examples from the hotel and recreation business. It also clearly magnified the importance of sustainability , in particular upcycling. It showed the difference between recycling and upcycling, clearly defining the upper side of upcycling as it comes up with new materials of a higher value. The African aesthetic has also been spoken about in the chapter, opening our eyes to the Adinkra symbols in particular.

CHAPTER 3

3.0 RESEARCH METHODOLOGY AND DESIGN

3.1 Introduction

Below are the methods and procedures used by the researcher to carry out the study. These elements include the research design and its components, target population as well as the sample. It also included the data collection methods, data analysis methods to be employed and data presentation methods.

3.2 Research design

The research design is a framework for planning a research and answering the research questions. Creating a research design meant making decisions about the type of data that was needed, the location and timescale of the research, the participants and sources, the variables and hypotheses (if relevant) and the methods for collecting and analyzing data. The research design set the parameters of the project: it determined exactly what was and was not to be included. It also defined the criteria by which the researcher evaluated her results and drew her conclusions as a strong research design is crucial to a successful research proposal, scientific paper, or dissertation (McCombes, 2019).

Taking that into account, the researcher applied the use of a case study that was in line with the study. A case study is the study of a case within a real-life contemporary context or setting (Cresswell 2003). The researcher based their study on findings from the Stardom Hotel. The case study was appropriate for the study as it was both a recreational and accommodation facility which was in line with what the researcher aimed to study. This research design was critical in the collection of data, analyzing data and making of proper conclusions.

Considering that the research design was to be mainly qualitative, other research designs that the researcher aim to use were descriptive design and phenomenological design. The researcher would also employ use of a phenomenological study design in order to know and understand participant experiences in the resort. This is because the hospitality sector sells intangibles simply because the products sold include customers' experiences and expectations (Davies 2003). This would enable the researcher to know how to better the experiences of customers in the resort.

3.3 Target population

According to Burns and Grove (1997) a target population is all elements (individuals, objects, events, or substances) that meet the sample criteria for inclusion in a study. The target population for this study were hoteliers and hotel users in Nairobi, specifically those around Kassarani constituency.

The researcher would therefore aim to interview 5 managers or staff of different hotel and accommodation establishments, 6 staff from the case study, and 20 users of hotel services, 10 from the case study and 10 who would be members of the general public. These would be mainly people using or have used hotel services within Nairobi in order to get their perception on the aesthetics and accessibility of facilities within the hospitality sector in Nairobi.

3.4 Sample design

Sampling can be defined as the process through which individuals or sampling units are selected from the sample frame. The sample frame is the group of individuals that can be selected from the target population given the sampling process used in the study. The sampling strategy needs to be specified in advance, given that the sampling method may affect the sample size estimation. Without a rigorous sampling plan the estimates derived from the study may be biased (selection bias).

The study employed purposive sampling. This is because the researcher wanted to acquire information with respect to her study. Cases or subjects were therefore handpicked because they would have the information the researcher needed or have the characteristics the researcher required. In this study the researcher chose to interview the manager of the hotel and about 5 of the resort's staff. The researcher chose a staff from each 'department' of the resort that is the kitchen, bar, reception, waiter and a staff from the accommodation section.

The researcher also used convenience non-probability sampling. This meant that respondents would be selected on a convenience basis. The researcher used this method to get information from customers of the resort. The samples chosen were therefore the accessible individuals at the time of the research. The researcher conveniently used the customers present at the time of their research as she was not able to predict who would be

there beforehand. The researcher aimed to interview or get responses from 10 customers of the hotel picking them from the various sections in the resort.

3.5 Data collection method and procedure

The study utilized both primary and secondary sources of data. Primary data included the information collected in the field or records of an observer. Secondary data on the other hand comprised of information that had already been collected by another researcher with respect to the research problem, and had consequently been subjected to some analytical or statistical process.

3.5.1 Interviews

An interview is a conversation for gathering information. A research interview involves an interviewer, who coordinates the process of the conversation and asks questions, and an interviewee, who responds to those questions. Interviews can be conducted face-to-face or over the telephone. Interviews are an appropriate method when there is a need to collect in-depth information on people's opinions, thoughts, experiences, and feelings (Easwaramoorthy and Zarinpoush, 2006)

Interviews were used by the researcher in collection of data for this study. The researcher conducted personal interviews on her respondents. This means the researcher interviewed the respondents directly and personally. It was mainly verbal one on one discussions with the respondents. This ensured a higher response rate rather than emailing the interviews and also enabled the researcher to further elaborate or explain the question to the respondents in case it is not clearly understood.

The interviews were semi-structured in nature. This allowed a considerable amount of leeway to the researcher to probe the respondents along with maintaining basic interview structure. The researcher prepared predetermined questions for the interview but they were open-ended questions therefore flexible and allowed for more information to be collected. It also allowed the researcher to adapt or reinterpret the questions appropriately depending on the circumstance.

3.5.2 Case studies

Most simply, case study is defined as “an empirical inquiry that investigates a contemporary phenomenon (the ‘case’) in depth and within its real-world context” (Yin,

2014) In evaluation, case studies can be used to capture the complexity of a case, including temporal changes, as well as explore the contextual conditions of a case.

The researcher implemented the use of a case study in order to execute a fairly intensive examination of her study. This helped her explore, unravel and understand problems, issues and relations concerning her study.

3.5.3 Observation

Observation is among the data collection methods that the researcher used. The researcher incorporated the use of various observation methods such as natural observation, participant observation, contrived and structured observation. Natural observation involves observing behavior as it takes place in the environment. (Maina, 2012). It is mainly non-participant as the observer observes from a distance. Non-participant observation is one where the researcher watched and recorded the situation under study without any involvement with the participant or current setting (Cresswell, 2012). The researcher observed the customers at the Stardom Hotel to see how they interacted with the surroundings naturally.

The researcher also employed the use of structured observation. The researcher conducted observation based on some guidelines or a checklist. This was to ensure they observed all the things they had intended to without getting distracted. The researcher however recorded new findings from observation even if they may not have been on the specific guidelines or list of things to be observed.

The researcher also applied the contrived observation method. In order to get the most accurate findings and at a faster rate, the researcher came up with an environment or situation to observe that would help in her study. The researcher had some individuals who use wheelchairs, crutches or individuals with visual impairments come and use the resort's facilities in order to allow for observation and enable the researcher get proper information in relation to their study.

Finally, the last observation method the researcher used was the participant type of observation. The researcher used the facilities at the resort and their services in order to

experience first-hand any problems in the resort. This allowed the researcher to have a clearer understanding of what the interviewees said about their experiences.

3.5.4 Projective techniques (Visual methodologies)

Projective techniques are where respondents respond to specific stimulus exposed to them by the researcher. They are typically used in in-depth interviews or focus groups. They tend to yield rich and accurate information as they do not require verbal literacy or forethought. It enables the respondents to respond more truthfully as they can express what they cannot put in words easily. There are many types of projection techniques however the researcher used the expressive technique through photo association and also used choice/ordering technique.

The researcher used photo elicitation to acquire information through the photo association technique. Photo elicitation is the use of photographs in interviews in order to get comments or spark a conversation with the interviewee. Photo elicitation produces a different kind of information as it evokes feelings, memories and information (Harper, 2002). The researcher presented the respondents with photos of the resort and other photos of other resorts to try and get their insight.

The researcher also used the choice/ ordering technique. Here, the researcher would probe the respondents to choose from a group of pictures. The researcher presented them with different designs in the hospitality industry and asked them to choose the one which most appealed to them. In this way the researcher was able to make proper recommendations at the end of their research.

3.5.5 Secondary data collection

The researcher collected secondary qualitative data. This she obtained from newspapers, information from the internet and magazines.

3.6 Data analysis methods

Data collected throughout the research was analyzed through qualitative data analysis methods. This is because most of the data collected was descriptive. The data collected underwent qualitative data analysis methods such as transcription, narrative analysis, thematic framework, organization of data sets and writing up the findings.

Considering the interviewees were not many, transcription was done during data analysis. The researcher having recorded the interviews, by audio and video recordings, listened to them and put them into writing. This allowed the researcher to gain greater familiarity with the data and deeper insight.

The researcher also used the framework method originally developed by the National Centre for Social Research in analyzing the data collected. Careful reading of the transcripts of the interviews was done to allow for the making of a thematic framework. A thematic framework was developed for classification and summary of the data, with headings and classifications that reflected the original matters of enquiry, and any new themes that emerged from the reading of the transcripts. Once the researcher was contented with the headings or themes and subthemes, the researcher then displayed them each on its own matrix. The response of each research subject was then allocated a row with each column represented a separate subtopic. The researcher then finalized the process by summarizing and synthesizing the original data from each subject within the appropriate parts of the thematic framework.

Narrative analysis was also implemented in analysis of the data collected. This method is used to analyze the content from various sources, such as interviews of respondents and observations from the field or surveys. It focuses on using the stories and experiences shared by people to answer research questions. In this way, the researcher analyzed the experience of her interviewees to answer questions in regard to her study.

Writing was done about the data found and it was mainly of analytical ideas. It was also a form of summary of the data. Organization of data sets was also done. This is because qualitative data, though taken from small samples is normally very lengthy and large. For one not to become overwhelmed with the sheer amount of data and analytical writings, the analyst needs to be organized. The researcher therefore organized the information sets through either manual methods or computer-based methods

3.7 Data presentation

The researcher finally presented the analyzed data through quantitative presentation methods. As difficult as it is to present the depth and richness of qualitative data, the researcher imaginatively used diagrams and other schematics such as pie charts to illustrate

the analytical process and findings of the study. This is a useful way of simplifying the complexity of the iterative process and gradual refinement of analytical categories. Photographs were also used as a way of presenting the data collected especially the one collected through observation.

The researcher also used reports and presentations as a means of data presentation. She however had to ensure that she has included any apparent contradictions, contrasts, comparison or inconsistencies to ensure the findings presented are not based on one element alone which can be misleading. Use of verbatim quotes from the research subjects was also done in order to illustrate the main themes that emerged from the study and to demonstrate the reliability of the conclusions. Verbatim quotes are generally some quotations from the respondents thus will act as evidence of fairness and accuracy of the analysis, provide explanations as given by the respondents and deepen understanding as they show the strength of the respondents' views and in-depth feeling in a way the narrator may not be able to.

3.8 Logical Framework

Table 3.1: Logical framework table that guided data collection and analysis. (Author , 2019)

DATA NEEDS	DATA SOURCE	DATA COLLECTION METHOD	DATA ANALYSIS	EXPECTED OUTPUT
Objective 1: To investigate how accessible and inclusive hotel spaces in Nairobi are .				
To determine if universal design principles are considered in the hotels in Nairobi.	Hotels around Kasarani area	Interviews (Interview guides) Photographs	Transcription Narrative analysis	Knowledge on the implementation extent of Universal design principles in hotels in Nairobi.
Objective 2: To investigate what other renowned resorts have implemented in their designs to ensure their environment is accessible and pleasing to the eye.				
To establish how universal design	The Internet	Secondary data collection methods (desk	Organisation of data sets	Knowledge on methods and innovations

principles are applied in the hospitality industry.		review of online sources)		used in hotels that practise accesible design.
Objective 3: To carry out a study on how accessible and aesthetically appealing the spaces at Stardom Hotel are and how it affects the experience and comfort of its customers.				
To determine if the spaces at the Stardom hotel are accesible and appealing to the eye.	Stardom Hotel (people and spaces)	Observation Photography Photo elicitation	Narrative analysis Visual analysis Thematic analysis framework	To know what gaps need to be filled in order to achieve proper accesible and aesthetic spaces at the resort.
Objective 4: To make proper design proposals on how to better renovate and create an all-inclusive environment at the Stardom hotel through furniture design, interior architecture , landscape design and exhibition and display.				
To determine the design proposals that can be applied at the Stardom hotel.	Stardom hotel Literature review	Case study (exemplars) Secondary data collection method	Evaluation	Design solutions for the problems at Stardom Hotel.

CONCLUSION

With an aim of making the hotels in Kenya conscious of the minority individuals who use their facilities, the researcher looked up to previous universal design implementers and learning from them, took on a case study which she would implement the principles of universal design. The researcher also showed the beauty of the African aesthetic and what it can achieve in the hospitality industry. The researcher managed the data collection, analysis and presentation herself in order to assure accuracy of the information.

CHAPTER 4

4.0 SITE ANALYSIS AND INTERPRETATION OF FINDINGS

4.1 Overview

In this chapter, the researcher will highlight the results of their research methodology. It will comprise of the site conditions and descriptions. Some of the findings associated with their problem statement will also be spotlighted. The data below will be at times backed up by photographs from the site, most of which were taken by the researcher. The researcher will arrange the analysis in the four major parts of interior design, that is interior architecture, landscape design, furniture design and exhibition and display.

4.2 Interior Architecture

4.2.1 Floors and ceilings

Stardom hotel floors are tiled. The tiles are mainly of cream or brown, marble imitating tiles. This gives the hotel a clean and neat look. The bathrooms have tiles on the floors and walls, the walls being fully covered in tiles up to the ceiling. The ceiling treatment at the hotel is of a painted concrete ceiling. The ceiling has been painted white and adds texture to the spaces. There is contrast as the beams running across the ceiling are smooth and are painted blue. This adds emphasis and interest in the ceiling.



Figure 4.1: concrete ceiling (Author,2020)



Figure 4.2: Tiling in bathroom (Author,2020)



Figure 4.3: Tiling on floors. (Author, 2020)

4.2.2 Fixtures

Here the researcher looked at the bathroom fixtures, doors and their accessories as well as windows and plugs. The bathroom fixtures present at the hotel are toilets, wash hand basins, shower trays and faucets. The toilets used are the standard toilets used in homes and have no special features. The bathrooms also have a shower tray at a corner. The shower tray though has raised ledges thus making it difficult for a person in a wheelchair to access the bath area comfortably. The faucets used at the bathroom wash hand basin is a twin-lever mixer and the one at the shower comprises of a two-handle shower faucet that is mounted to the wall. The taps used at the wash hand basin are flute/knob head twisting taps. They require the user to twist them to turn on the water and do so in the opposite direction to turn off the water. This is also the case for the cross-head taps used in the shower. This is difficult for people with disabilities on their forearms.

The wash hand basins in the bathrooms and at the restaurant are installed into a built-in counter. The counter has also been fitted with cabinets. This makes it difficult for a person in a wheelchair to access the shower basin easily. The sink at the restaurant is a double sink with a wall mounted bridge mixer tap. It however lacks a soap dish or tray as the handwash is placed at the window seal which is too high for someone in a wheelchair to reach without assistance. The bathroom also lacks grab bars and the shower does not have a handheld feature.



Figure 4.4: bathroom wash hand basin (Author, 2020)

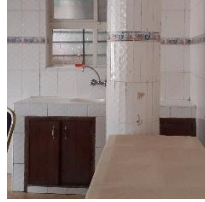


Figure 4.5: Restaurant wash hand basin (Author,2020)

The windows in the hotel are large and bring in a lot of light during the day. Some of the windows found at the hotel are the round windows, glass block windows, bow window, bay windows and they have aligned windows in a straight line. In some parts, the aligned windows take up a whole wall with only pillars in between them to separate them. This is seen at the bar and at the reception area. The bow windows are installed at the curved walls in the bedrooms and VIP area. There is a bay window with three sides at the bar area as well. The glass block window is situated between the bar and VIP lounge and the glass blocks are of blue, white and green colors. These windows can be opened as they have hinged parts. They open to the outside.



Figure 4.6: Glass block window (Author,2020)



Figure 4.7 Bow window in one of the rooms (Author,2020)
:

The doors in the building are all basically made of mahogany except the bathroom doors which are made of blue gum with a non-gridded veneer overlay to make it water resistant. The main doors, such as the ones at the entry, VIP lounge, bar and conference room are engraved beautifully and have a shiny finish. There is also a metallic door that leads to the garden. The wooden doors have been fitted with lever door handles and the larger doors are double doors with an arched window above the door. The metallic doors have a metallic door latch to close them.



Figure 4.8: : Engraved mahogany doors.(Author,2020)

4.2.3 Walls finish

The walls of different spaces have different finishes. The walls of the hotel have many pillars as well. The walls in all the bathrooms are clad in tiles from the floor to the ceiling. The walls at the reception/ restaurant area are also clad in tiles from the floor to the ceiling. The pillars in this space though are not tiled and instead have been made smooth and painted cream. The outside faces of the walls, that is the exterior, have been smoothened and painted in white and peach paints.



Figure 4.9: Tiled reception and restaurant wall (Author,2020)



Figure 4.10: outside walls painted peach and white (Author,2020)

4.2.4 Lighting and light fittings

The hotel has large windows in its different spaces. These windows can span through an entire wall. This allows for enough natural light to penetrate into the building. Apart from that there are bulbs and light fittings fitted into the ceiling and at the sides on the pillars. At the bar area there are LED lights fitted into the wooden structure. Some LED lights are also fitted at some parts of the ceilings. Ambient light is not seen throughout the hotel.



*Figure 4.11: LED lights fitted into the bar.
(Author,2020)*

The bulb lighting used in the hotel is mainly warm white incandescent light. However, in some spaces they have mixed different light colours. The bar area has coloured LED lights of green, blue and red to accompany the warm white light. The restaurant has also mixed the warm white light with the cool white light. The light however at night may feel dim and may not be enough for people with visual problems or disability. The light furnishings used in the hotel are only on the ceilings or on the side pillars. The ones on the ceilings are flush mount light fixtures that seem to be acrylic while the ones on the pillars at the walls are metallic light fixtures.



Figure 4.12: Warm white light (Author,2020)



Figure 4.13: Light furnishings on ceiling and pillars(Author,2020)

4.2.5 Layout and seating arrangements

The seating arrangements used at stardom are mainly the banquet style and boardroom style arrangements. The banquet style has been used in the restaurant, bar area and one of the conference rooms. The boardroom style has been used in another conference room. The square tables have been arranged in a diagonal seating layout with four chairs arranged around it. The one issue the person who did the banquet and square table arrangements, is that they did not leave enough space between the tables. This makes it hard for people especially those using wheelchairs. Where there is enough space, potted plants have been placed such as in the bar area.



Figure 4.14: Square table with 4 chairs,(Author,2020)



Figure 4.15: Diagonal table arrangements. (Author, 2020)



Figure 4.16: Banquet style layout (Author, 2020)

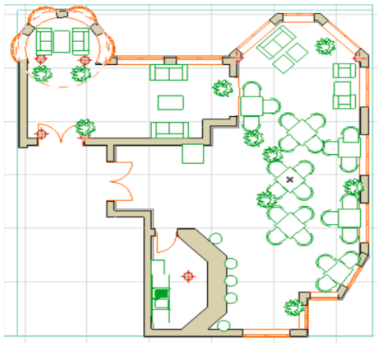


Figure 4.17: Existing floor plan at Stardom Hotel bar lounge and VIP lounge showing barriers between seating arrangements, small bar with a pillar in the middle and the large windows that provide enough natural light. (Author, 2020)

As for the bedroom, the layout is pretty basic with a bed beside the door. The television is placed at the foot of the bed next to a pillar and below it is a television cabinet that remotes and telephones are placed. This is too far for a disabled person to reach easily as it requires someone to move from the bed in order to reach the items. There is lack of enough space beside the bed as on one side is a wall and on the other is a pillar and less than 800mm space between the door and the bed. This does not facilitate for easy transfer of a person on a wheelchair onto the bed.

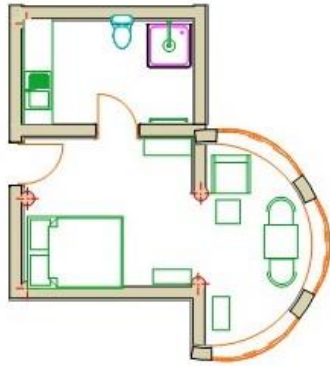


Figure 4.18: Plan view of the Stardom hotel single room. (Author,2020)

4.2.6 Colour theory

The researcher was keen to look at any color theory implemented at Stardom hotel. The researcher noted a predominant color scheme used. The hotel mainly featured cream and white walls, ceilings and tiles as well as brown/ peach tiles. They also used a lot of wood accents such as in the bar. The only contrasting color used is blue. The sofa sets were also either a dark brown or white in most cases. We can therefore say that the color scheme is mostly analogous.

4.3 Landscape

4.3.1 Location

Stardom hotel is located in Nairobi along the Kasarani-Mwiki road. It is also only 5 minutes away from the Thika super highway and by car and the distance to the central business district from the hotel is only 16 km. It is built in a residential area away from the noise of the city centre and is a very serene place. One can access the hotel through a marram road from the Kasarani-Mwiki road that leads to a driveway that ends at the hotel's gate.



Figure 4.19: Stardom hotel location

(Google maps,2020)



Figure 4.20: Marram road used to

(Google Earth,2020)

4.3.2 Climate

The climate of Kasarani, where Stardom hotel is located is rather warm and is of a tropical nature. It has been classified as having a subtropical highland climate by the Koppen climate classification. The climate around Kasarani is warm throughout the year and it experiences significant rainfall all through the twelve months. Rainfall in Kasarani can average up to about 869 mm per year and the average temperature in Celsius is 19 degrees. Below are graph representations of the temperature and rainfall of Kasarani across the twelve months of the year.

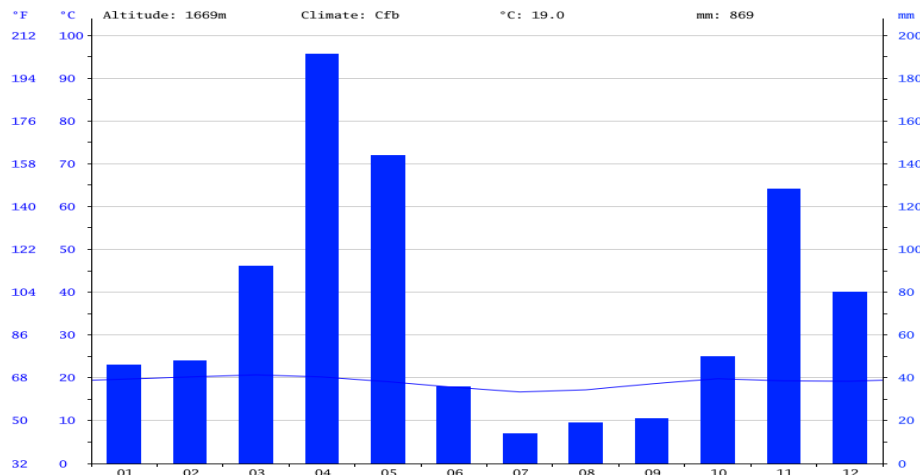


Figure 4.18: : weather averages by month (Climate-Data.org,2020)

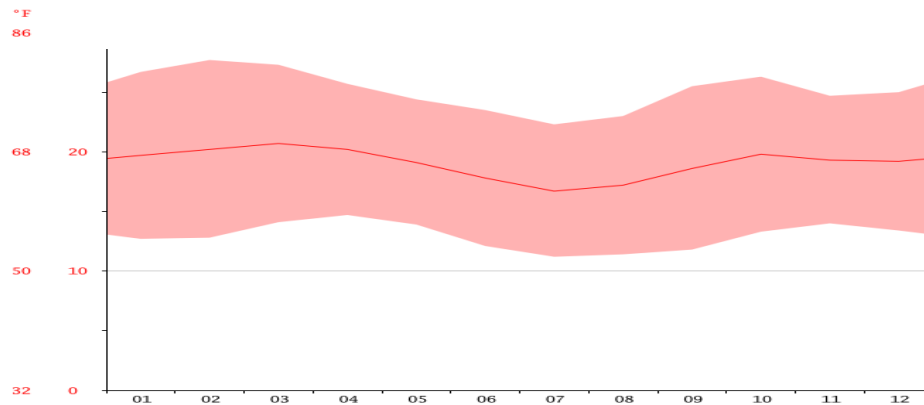


Figure 4.19: Temperature graph of Kasarani(Climata-Data.org,2020)











4.3.3Vegetation, ground cover and soil type

At Stardom Hotel, most of the vegetation cover is either in a linear pattern all around the garden or in pots just outside the hotel, at the entrance. There are also some planted plants near the gate. Soft landscapes are what is available at the site. There is inexistent hard landscape as even the barrier at the garden is a hedge. There is also presence of many tropical plants. Some of the plants planted at the hotel are as follows:

Table 4.1: Table showing the trees present at the Stardom Hotel.

Image source:(Author,2020)

Trees		mango
		Bottle brush

		Schefflera actinophylla
		eucalyptus
		Neem tree
palms		Champion palm
		Areca palm
Shrubs and small plants	 	Red foliage shrubs such as iresene (first image to the left)
		Spider plant
		Monstera plant
		Hibiscus moscheutos
	 	sisal
Hedge		Variegated duranta

The hotel has covered its garden grounds with grass, specifically lawn grass, the walking areas at the very top of the garden has small stones covering the path. The soil type of the area is loam soil hence enables the planted trees to grow well as they are planted in good soil.

4.3.4 Walkways, parking and ramps

There aren't plenty of walkways around the hotel. Most of the areas within the landscape of the hotel are sectioned out. Due to this each section has a sort of unity in its appearance lacking paths to break the monotony. The driveway to the hotel is also quite isolated, so is the garden. The driveway to the hotel has been clad in ballast up to the gate. From the gate into the parking, cabro blocks have been used.

The parking is enclosed by stone walls and can accommodate up to 10 vehicles though there are no demarcations to guide the visitors on an order of parking. It is also right in front of the hotel's entrance. The parking is clad in two different shapes of cabro blocks. They are not placed in any order; it just seems as though one type ended and they bought another type and clad the ground with it without any aesthetic considerations. The cabro blocks break towards the entrance where terrazzo is then used in order to emphasize the entrance of the building. The terrazzo is in a semicircular shape and also runs around the front of the building.



Figure 4.20: Driveway covered in Ballast. (Author, 2020)



Figure 4.21: Parking lot dressed in cabro blocks. (Author, 2020)

At the entrance there is a two-step rise in order to enter the building. There is no presence of a ramp at the entrance. From the restaurant at the ground floor of the hotel to the garden in the back there is also a step descent without the presence of a ramp. One then has to pass through a short-enclosed path with different broken tile pieces cemented onto the path. The only ramp in the whole hotel is found at the garden as it connects the short path to the garden.



Figure 4.22: Ramp from restaurant leading to garden from a narrow corridor.(Author,2020)



Figure 4.23: Lack of a ramp at the main entrance.(Author,2020)

4.3.5 Security systems and site services

Some of the site services the researcher saw included electricity and manholes. Power lines are near the hotel and that is where they tap power from. The power lines are seen at the driveway as one enters the hotel. They are aligned in a straight line with the trees planted on one side of the driveway. Also, at the driveway one is able to see a large manhole towards the perimeter wall of the hotel. There are also two manholes at the garden in the back. One is directly located at the foot of the ramp leading into the garden and the other is to its right-hand side.

The security systems observed by the researcher included the street and security lighting around the hotel. Not far from the hotel is a community security light erected by the area's member of parliament. It is one block away from the hotel and has very bright light that illuminates the gardens and driveway of the hotel sufficiently at night. Apart from that the

hotel itself has also put up security lights at the top of the perimeter wall. This ensures that hotel's outdoors are lit well even during the night.



Figure 4.24: Security lights around the perimeter wall(Author,2020)



Figure 4.25: Manhole in the garden.(Author,2020)

4.3.6 Drainage and hydrology

The hotel owner saw it fit to create drainage all around the garden towards the south (back) of the hotel. There is a continuous trench all around the garden at the sides of the piece of land. At the middle of the land towards the back of the garden, a small trench has also been dug. The small trench has been dug in a fork road shape and is used to drain water from the ground when it rains. despite this some parts of the garden still flood with water as there are some depressions despite the land being fairly flat. The small garden towards the side of the land has no drainage trenches and due to this it floods towards its right side, away from the hotel's wall. It has a depression towards that side but not all the way to the edge, thus it retains a lot of water such that the land cannot be utilized if it rains.



Figure 4.26: Forked drainage trench at the southside of the garden.(Author,2020)



Figure 4.27: Small garden flooded in the middle after the rains. (Author, 2020)

4.3.7 Infrastructure and neighboring facilities.

The stardom hotel is located in Kasarani along the Mwiki – Kasarani road. The distance from the Thika road super highway to the hotel is about 6 km. the hotel is quite close to the road therefore it is easy for visitors to get transport to and from the hotel. It is only 450 m from the mwiki- Kasarani road to the hotel. The road leading to the hotel is of compressed marram. Cars and people can pass easily through the road.

There are many facilities around the hotel. These include hospitals, schools and churches. Apart from that, the hotel is 10 kilometres from the Moi International stadium. It is also only 7 kilometres from the Thika road mall and it is also not far from Garden city mall. The Kasarani police station is also an amenity accessible to the hotel as well as the large St Francis hospital and Neema dispensary. There are also many supermarkets within reach of the hotel and shops that are a walking distance from the hotel. Haco Industries also neighbours the hotel. There is also a maternity not far from the hotel. Around the hotel are apartments as Kasarani is a residential area.

4.4 Furniture

4.4.1 Indoor furniture

Bedroom

There are two types of accommodation facilities at the hotel. There are single rooms and twin rooms. The single rooms have one queen sized bed, a flatscreen TV, a TV stand, a wardrobe, a sofa, stool, two banquet chairs and a desk. The twin rooms have a wardrobe, two single beds, a TV stand, a flatscreen TV, a desk and two chairs. Both the rooms also have a short cabinet without doors that a small fridge is placed in.

The tables, TV stands, wardrobes and fridge cabinets are all made of MDF board material. The beds used in the rooms are poster beds. This is in order for them to support mosquito nets offered in the rooms. As there is lack of bedside cabinets offered in the rooms, telephones and remotes are placed on the TV stands or on the offered desks which are far from the bed.



Figure 4.28: Queen size bed with posts that support a mosquito net.(Author,2020)



Figure 4.29: Wardrobe provided(Author,2020)



Figure 4.30: Bedroom table with banquet chairs.(Author,2020)

Bar area

The bar area comprises of restaurant furniture and bar stools as well as a credenza for placement of food and snacks. The bar stools are taller than the other seats, the seat being at 76 cm. it also has a backrest which is 30 cm. This offers more support to the customers. The bar stools are made of a steel frame with a wooden seat. It also has a railing underneath it for leg placement. The steel frames are made of cylindrical bars and so is the backrest. The bar that lies horizontally at the end of the backrest however becomes uncomfortable after a while of sitting on the stool. There is also a credenza present at the entrance of the

bar area. It is made of wood and has the typical old Kenyan style of cabinet making, with doors that have a grid and glass. It looks more like the bottom part of the old-style wall unit furniture that is predominantly used in Kenya. It dulls out the look of the bar.

The sofas present in the lounge area of the bar are made of a wooden frame and are upholstered in brown plastic leather(pleather). The dark brown used in their upholstery is dull and uninteresting. Apart from that, the pleather has started peeling in some areas as pleather is not durable. The tables used in the bar area are of a wooden top on a steel frame. They are however clad in fabric to protect them. The stools used are made of wood and are quite wide. They have also started aging and their top finishing has some scratches in some places especially at the centre.

The resting area of the bar has foldable chairs and some sofas. It also has square shaped tables and small stools for the people sitting on the sofas. The chairs used are foldable, stackable chairs with a plastic backing and a wooden varnished seat. The wooden part of the seat however ends up looking aged after much use due to scratches being seen and destruction of the varnish layer. The chairs used here are the ones with the most ergonomic considerations in the hotel. Its back is not flat like others thus it is comfortable. They also have extra reinforcement bars underneath the seat which make it stronger. This can allow it to hold more weight thus even obese people can seat on the chairs comfortably.



Figure 4.31:Folding Chairs that are stackable.(Author,2020)



Figure 4.32:Bar stools with a metallic rod backrest(Author,2020)



Figure 4.33: Brown pleather material sofa.

VIP lounge

The VIP lounge has sofa sets on either side of the room. It has an area with straight walls and an area with a curved wall. both these areas have sofa sets facing each other with a table in the middle. The sofa sets are all upholstered in dark brown pleather and are of a wooden frame. The tables are wooden and are covered with a red brown veneer that resembles wood. The veneer top has become damaged and looks rather worn out though.



Figure 4.34: Table with veneer top damaged over time.(Author,2020)



Figure 4.35: Pleather sofas used in the VIP Lounge.(Author,2020)

Reception and restaurant

The reception area is right at the entrance of the hotel towards the right-hand side. At the reception's right side Is a brasserie which translates to a typical French restaurant with a relaxed setting and unchanging menu that offers all day table service, 7 days a week. To its left side is the restaurant, where people can have meals comfortably.

The reception has a custom-built desk made of concrete and a marble countertop. The counter top is black and the concrete is painted white. It is 150 cm wide and has a height of 110 cm. due to its height someone in a wheelchair will find it difficult to communicate with the receptionist. At the brasserie, there are two sofas and two tables each having two seats. The sofas at the brasserie are upholstered in grey fabric and have a veneer coated coffee table in front of them.



Figure 4.36: Reception counter at entrance. (Author, 2020)

The tables used at the restaurant and brasserie are identical. They comprise of banquet style chairs and square tables. The banquet style chairs are of red and blue colours. The tables are of a square wooden top on a steel frame. The frame of the chairs is painted gold. On the restaurant side there is also a section with a 5-seater sofa set. The sofa set is of a wooden frame with dark brown pleather (plastic leather) upholstery. There is also the presence of a wooden coffee table at that section.



Figure 4.37: Blue and red Banquet chairs. (Author, 2020)



Figure 4.38: 5-seater sofa set made of pleather. (Author, 2020)

At the restaurant there is a piece of furniture that has a marble top and is made of concrete material that is painted white. This piece of furniture has been used to display potted flowers. There are also two credenzas at the reception and brasserie area. One is made of MDF while the other is made of normal wood and is of the old cabinet making style predominant in Kenya thus, we can say it is of an antique style.



Figure 4.39: Decor table.(Author,2020)



Figure 4.40:MDF Board credenza(Author,2020)



Figure 4.41:Wooden, antique style credenza (Author,2020)

4.4.2 Outdoor furniture

The stardom hotel has two gardens, a parking and a rooftop landscape. These are the places where one expects to get outdoor furniture. At the garden at the back of the hotel, there are wooden outdoor tables with umbrellas made out of tent material. This material does not fade therefore is appropriate for outdoor use. At the time of the research there were no seats

at the garden and upon inquiry, the staff said they removed them to avoid damage by the rains.

At the garden there is also the presence of swings. They are two wooden swings supported by chains to a steel frame. There is lack of any furniture in the smaller garden and so as at the parking side. At the rooftop landscape however, there are wooden outdoor tables with umbrellas in the middle. They also have wooden foldable chairs around them. The chairs resemble the table design and are also made of wood. They have a cushion placed on them to add to the comfort of the guests.



Figure 4.42:Outdoor table(Author,2020)



Figure 4.43:Rooftop furniture. (Author,2020)



Figure 4.44:Garden swings.(Author,2020)

4.4.3 Accessory furnishings

The accessory furnishings seen at the hotel include mirrors, bathroom accessories, dustbins, planters and soft furnishings. The mirrors found around the hotel are mainly in the bedroom bathrooms. They are mainly custom made in order to fit a large part of the wall. The frame of the mirror is made of wood. The wood however is not painted and has some rough edges. Accessories installed in the bathrooms include soap holders, towel rod, circular hand towel holder, toothbrush holder and a tissue holder. They are all made of

aluminium and some glass parts. The soap holder is however too far from the shower area and the towel rod is too high for someone in a wheelchair to access easily.



Figure 4.45: Bathroom mirror with wooden frame. (Author, 2020)



Figure 4.46: Towel rod 1800mm high. (Author, 2020)

The window treatment in the hotel includes drapes and curtains. All windows have curtains which are drawn during the day and they move around curtain rods. Table cloths are also among the soft furnishings used in the hotel. They protect the tables from damage and also give the tables a neat look. Other accessories seen in the hotel include plastic dustbins in the rooms. Also, soft furnishings such as shower curtains are present in the bathrooms.

4.5 Exhibition and Display

4.5.1 Signage

Signage at the Stardom hotel needs improvement. Some places have signage installed while some don't. When you enter the hotel, you cannot be able to tell which place is the right place to go. The reception has no signage saying that it is the reception. The areas with signage are the VIP Lounge and the two doors that neighbor it. Even so the other two doors have signs such as "wisdom" and "embassy room". This does not give a clear intention of the room thus their purpose is not achieved as one will still have to inquire what that means. The embassy room for one is where there is a bar and entertainment lounge. This would

not be easy for a first-time customer to figure out. The gents and ladies also have signs and the brasserie.

For the other rooms, one has to guess or be told by the staff what the room is. the path to the garden also has no signage despite the door being in a hidden part of the lounge. This makes it difficult for anyone to know where the garden is. Also, on the outside, in the small and large garden, there is lack of any signage as well as the parking area. The signage plaques used are gold in color with writing in caps and in black. They are also made of aluminum.



Figure 4.47: Signage above VIP lounge door. (Author, 2020)

4.5.2 Bar display

The bar is located in a wide room the hotel has named the ‘embassy room’. The bar is placed not far from the entrance at a corner of the room. The display unit at the bar is used to display some of the drinks being sold at the bar. It is a small unit which can only hold a few drinks and due to this some of the drinks are even exhibited at the very top of the display unit. The display unit is constructed using veneer clad wood.

Below it is a sink with a small counter where glasses are placed on and also the remaining glasses which cannot fit are placed on the counter on the side of the bartender. Apart from that, some of the wine glasses are placed on the grills around the bar to dry as there is no drying system or rack. If the display was a little bigger there may have been space to place the glasses.



Figure 4.48: Wine glasses hung to dry on bar grills.(Author,2020)



Figure 4.49: Wooden display unit for drinks.(Author,2020)

4.6 Conclusion

By visiting the site and seeing first-hand the facilities present at the hotel, the researcher was able to see the strengths and weaknesses of the hotel. The researcher was able to assess how accessible and accommodating the facilities at the hotel are especially for people living with disabilities. Through interaction and conversations with customers and staff of the hotel, the researcher was able to get more insight on what needs to be improved on in the hotel.

CHAPTER 5

5.0 SUMMARY FINDINGS, CONCLUSIONS AND RECCOMENDATIONS

5.1 INTRODUCTION

This chapter highlights the recommended renovations and addons that the researcher finds appropriate for the Stardom hotel based on design principles and elements. The researcher, having analyzed their findings, suggests the corrections that should be done at the Stardom hotel to ensure they provide an accessible and aesthetic environment. The researcher points out design considerations that need to be taken into account as well as also suggest aesthetically appealing designs that the hotel can take up. The researcher does this while also citing the benefits of those design considerations.

5.2 SUMMARY OF DATA ANALYSIS FINDINGS

After analyzing the data collected, the researcher noted that the hotel was lacking in accessible design. The designer noted a lack of ramps and a lack of ergonomic considerations in the furniture used and fixtures such as faucets, towel racks and wash hand basins. The hotel has also kept their color scheme analogous with the light switches and sockets being of the same color as the walls. Their color scheme makes it difficult for individuals with low vision to locate things in the environment easily. The hotel also lacks adequate signage as they do not have any tactile information on them and also some areas such as the landscapes lack signage.

Despite the hotel having two gardens and a large driveway area, they are quite underutilized. They have been left as lawns and lack outdoor furniture and facilities. The driveway and parking have not been demarcated into parking bays and the parking has two different designs of cabbro blocks. Their furniture is also old and worn out such as their tables and sofa sets. There is also lack of attention paid to the décor around the hotel and they are also very little. The lighting also seems deem at night and there is lack of accent and ambient lighting. The bar is also quite small, has a storage issue and has an awkward pillar in the middle of it that makes it even smaller. All the issues the researcher noted were mainly on aesthetics, space utilization, layout and accessibility.

5.3 RECOMMENDATIONS

5.3.1 INTERIOR ARCHITECTURE

Floors and Ceilings

The hotel should ensure that their floors and ceilings contrast visually with the walls. This will enable a visibly impaired person to interpret their surroundings appropriately. Stardom hotel use ceramic tiles all around the hotel which are polished. I would suggest they change the flooring to slip resistant resin flooring. Resin is easy to style and offers diverse opportunities. Apart from that, slip resistant resin has added sufficient and uniformly distributed aggregate that makes it non slip in nature.as for the bathroom and bedroom, textured tiles should be used for the bathroom and wooden floors or laminate with a wooden aesthetic for the bedroom. Wooden floors are durable and have an elegant look. Floor laminate is also durable, easy to clean and can mimic the hardwood floor aesthetic at a lower cost making it cost effective.



Figure 5.1: Non-slip resin flooring, Image source: <http://www.cblanchphotography.com/2020/04/09/love-photography/>



Figure 5.2: Laminate flooring that mimics wood, (sunspeed flooring,n.d) retrieved from:<http://www.sunspeedflooring.com/laminate/>

The ceilings can be left white as they currently are but the beams could be clad in faux wood cladding to add to the aesthetics of the room. At the VIP Lounge, lower circular ceiling addons can be added. These will give the Lounge a more aesthetic feel as well as build on the illusion of privacy on sections of the room.



Figure 5.3: Circular ceiling installations: Image source; <http://lightform.ca/inspiration-page/project-40>

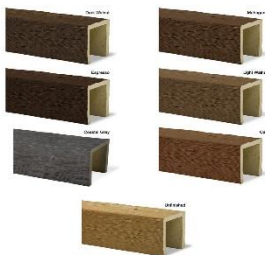


Figure 5.4: Faux wooden beam ,Image source: <https://www.azfauxbeams.com/products/hand-hewn-custom-faux-wood-beam>

Fixtures

For the toilet, the hotel should ensure that all their toilets lie at a height of 4500mm – 5000mm from the floor. A wall hung or corbel type toilet would be preferred. It is advisable that universal toilets have a backrest which is not the toilet lid nor the tank. The wall hung toilets also offer additional space at the toe level.



Figure 5.5: wall mounted toilet, Image source: <https://www.bathshop321.com/wall-hung-toilet-marbella-synergy/>

The hotel should maintain the mixer taps they have in place but change the faucets from crossed and knob ones to lever type faucets which are easier to open and close. The faucets can also be placed at the front face of the washroom counter for easier use. The wash hand basin should be put closer to the edge of the counter or they should install adjustable swash hand basin so that it can be lowered or taken higher to a comfortable height. The shower faucets should also be lever type faucets and should have a handheld feature.

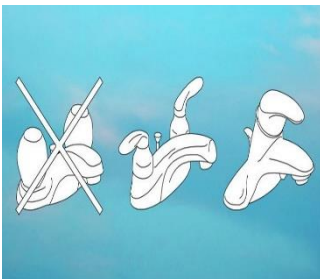


Figure 5.6: lever faucets



Figure 5.7: Shower with hand held feature, Image source: <https://artbath-direct.myshopify.com/collections/shower-syatem/products/artbath-luxury-rain-mixer-shower-combo-set-wall-mounted-3-way-shower-system-with-rainfall-shower-head-handheld-shower-and-tub-spout-faucet-white-chrome>



Figure 5.8: Adjustable sink

For the doors they should be of a contrasting color from the wall and be 900 mm wide or more to fit a wheelchair user. The door's hardware such as door handles should contrast with the door color and they should be of a lever nature. Door knobs should be avoided. The sockets and light switches in the bedroom and hotel should all be of a contrasting color from the wall in order to be seen clearly even by people with low vision. Light switches should be at an appropriate height for reach by individuals in wheelchairs. Light switches should be at a height of 1120mm – 1200mm. additional light switches and sockets should be placed near the bed or on its headboard in order to allow ease of reach.

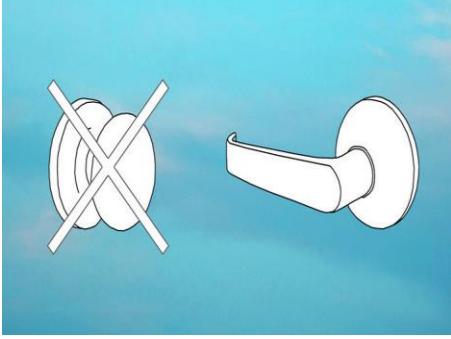


Figure 5.9: lever door handles



Figure 5.10: accesible light switches and sockets from the bed, Image source: <https://emfadvice.com/sleeping-electric-outlet-panel/>

Wall finish

I would recommend that the walls of the hotel get painted. I suggest the introduction of color to the walls to avoid monotony through uniform white walls. For the VIP Lounge, a combination of paint and wallpaper can be used. The wall paper will introduce implied texture to the room as well as a good choice of wallpaper will make the room feel more elegant. The wall color should contrast with the floor and ceiling.



Figure 5.11: lounge that has walls that have wall paper and painted walls, Image Source: <https://www.magicmurals.com/bars-breweries/>

The hotel should also consider adding wall moulds that will run across its length or crash guards. They should contrast with the color of the wall. these will assist people with visual impairment or low vision find their way easily around the hotel especially in corridors. They should also add corner guards that contrast in color to the pillars and corners around the hotel. These will also assist visually impaired individuals see them. The skirting should also be of the same color as the wall as this will create contrast between it and the floor thus giving an accurate indication of the size of floor.



Figure 5.12: corner guards in a room,

The walls should also have artwork placed on them in select areas such as the bar lounge, bedroom and VIP section. As the owner of the stardom hotel loves to put images of famous African heroes in the hotel, I would suggest inclusion of a gallery wall in one of the walls of the VIP Lounge which is unutilized. The images can be supplemented with African paintings in order to build on the African aesthetic in the hotel.



Figure 5.13: Gallery wall, Image source: <https://themaximalist.co/category/boutique-hotel/>

I would also suggest that the glass blocks placed at a section of the wall adjoining the bar and the VIP Lounge be removed. That wall should just be left as a clean concrete wall to enable addition of artwork in the bar area and not to interfere with the seating space design suggested for the VIP lounge. For the bathroom I suggest that the shower section should be separated by a glass block wall on one side leaving space for entry.



Figure 5.14: Glass block wall separating the shower area from the rest of the room, Image source: <https://www.houzz.com/photos/glass-block-walls-and-windows-highlight-modern-bath-remodel-modern-bathroom-dc-metro-phvw-vp~6274786>

Lighting and light fittings

As the lighting at the hotel usually feels dim at night, I would suggest that the hotel ensures that there is enough light for optimum visual clarity. Light is one of the factors that affects the visual clarity of people suffering from poor vision. It is therefore important to ensure appropriate luminance is achieved in the hotel. For corridors I would advise they ensure the luminance is of 100 lux minimum while luminance for the bar, VIP Lounge and restaurant should be from 100-300 lux. The boardroom and bedrooms should have light

ranging from 300 lux to 500 lux. The hotel should also consider adding ambient lighting to the ceilings through recessed lights, and also on the pillars to make them visible at night.



Figure 5.15: column lighting, Image source: <http://www.lightingsolutions.co.nz/architectural-ground-recessed-lighting>

The lighting in the hotel should be uniform. I mean that it should avoid creation of too many shadows especially where people are passing. The hotel should ensure that light fixtures are not placed too far apart as they will result in non-uniform patterns of light and dark on the floor which can disorient the visually challenged. The bedrooms should also be installed with flashing lights, both in the bathroom and sleeping area. These alert deaf people in case of an emergency.



Figure 5.16: the lack of uniformity in light spacing leads to patches of light and dark that may be disorienting, Image source: <https://www.itcportal.com/businesses/hotel-manual.pdf>

For the light fittings, I suggest the use of pendant lights at the bar. I also suggest the installation of pendant lights at each side of the bed in the single room. Accent lighting should also be added to highlight art on select walls. For the bar lounge and VIP lounge I would suggest the inclusion of large sisal or papyrus light fittings. They will add texture to the room. The hotel can make the fittings similar to baskets or use the traditional Luo fishing baskets upcycled to be used as light shades.



Figure 5.17: pendant lighting, Image source: <https://www.bhg.com/shop/sculptural-glass-3-light-round-globe-chandelier-small-globe-gold-ombre-shade-brass-canopy-p61c156a1a3629674057b2df441009ba4.html>

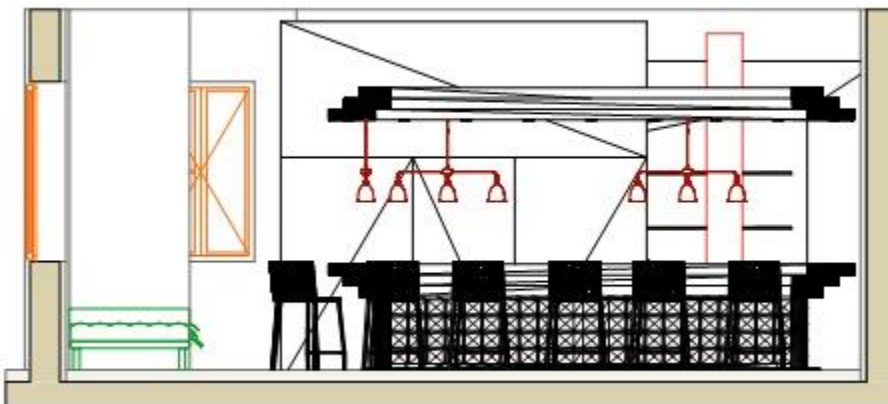


Figure 5.18: section showing redesigned bar installed with pendant lights, (Author, 2020)



Figure 5.19: Basket light fittings, Image source: https://www.tripadvisor.es/Tourism-g10679379-Playa_Manzanillo_Rivas_Department-Vacations.html?fid=328eae3e-0a5f-4214-8385-947288c052cf



Figure 5.20: Accent lighting for art. Image source: <https://www.diynetwork.com/how-to/make-and-decorate/decorating/techniques-for-lighting-artwork>

Layout and Seating Arrangements

In order to add interest into the bar lounge I would suggest varying the seat arrangements. I suggest addition of booth seating at the windows side of the room and they can even add dividers between the booths to make the sections feel private. As for the middle of the room I suggest addition of floating seats held by rods mounted onto the ceiling. each floating seat will be accompanied by two armchairs. At the bay windows at the end of the lounge, sofas can be placed there. There should be enough moving allowance between the booths and the middle seating arrangements of 900 mm or more to allow wheelchair users access the seats. For the VIP Lounge, a booth seating arrangement should also be introduced with all the booths falling along one of the walls.



Figure 5.21: Booth seating in a lounge. Image Source: <https://www.easyweddings.com.au/WeddingVenues/Perth/MaltSupperClub/>

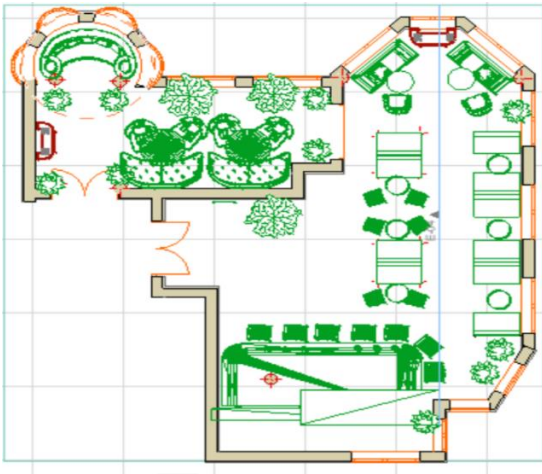


Figure 5.22: Plan view showing new layout of the bar lounge and VIP lounge, with the bar extended to an L-shaped counter and with enough space between seating areas for easy access. (Author, 2020)

For the bedrooms, the twin bedrooms should ensure that the beds have a 900mm allowance between the beds. For the single rooms I would advise changing the bed to the middle of the room, the headboard lying on the wall on the right side of the room opposite the wall with the bathroom door. This will allow for a minimum of 800mm space on the side of the bed for wheelchair parking. I would suggest placement of the reading desk at the bed's far right at the curved wall with a divider dividing the two spaces. The bed area should have a wooden plane on the wall for aesthetic purposes with an adinkra symbol embedded into it.



Figure 5.23: Wall accessory with a symbol in the middle. Image source: <https://www.facebook.com/ArchiDesign/posts/bedroom-interior-design-decor-idea/1419964088158842/>

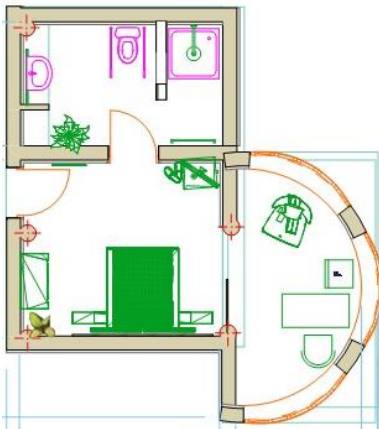


Figure 5.24: Bedroom layout with change of bed position to allow 800mm on the side allowance for wheelchair parking and ease of transfer. Also there is the presence of a platform bed with bedside cabinets and a glass blocks wall as well as grab bars added in the washroom. (Author, 2020)

Colour Theory

The hotel has implemented an analogous color scheme using white, cream and peach as their colours with only a pop of sky blue in their beams. This does bring harmony but it makes the hotel look monotonous and uninteresting. I suggest the use of contrasting colours to break the monotony as well as help in visual clarity. The color scheme I suggest is one

with shades of teal and orange with a dash of gold. This will create contrast as well as add an aesthetic look into the hotel rooms. Accents of brown from wood should also be considered. White and black should also be used in some areas.



Figure 5.25: Researcher's suggested color pallette, Image source: <https://www.fabmood.com/color-inspiration-copper-green-mustard-peacock-teal/>

5.3.2 LANDSCAPE DESIGN

Walkways, paths and parking

One of the major issues with the hotel was the lack of ramps at the entrance of the hotel and at the door connecting the restaurant to the small corridor leading to the garden. The hotel should put in place ramps at the entrance and all exits. The ramps should be made of non-slip material such as concrete or terrazzo. The ramps should also be of a gradient 1:15 and be 1500mm wide. it should be noted that the ramps benefit not only the wheelchair users but also other people such as kids, people in crutches as well as people pushing strollers.

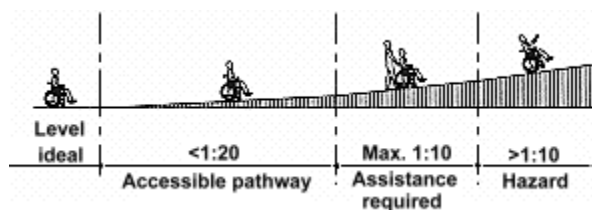


Figure 5.26: ramp slope comparison, Image source: http://www.blablalarchitecture.com/2011/09/000off_gradient/

As the gardens of the hotel have no walkways, it is hard for wheelchair users to move comfortably around the garden. I suggest the creation of walkways all around the garden.

Apart from accessibility, this will also create interest in the vicinity. The walkways and paths would be 1200mm-1500 mm wide creating enough space for people to pass each other as well as enough space for people in wheelchairs to pass. They should also be made of firm material such as concrete or tightly knitted pavers. The pavers should be tightly knitted to avoid obstruction to wheelchair users.

Figure 5.27: sketch of Stardom main garden with added walkways all around the garden and gazebos at the south of the garden.(Author,2020)

At the parking they should also ensure the presence of accessible parking bays for the disabled. It would be better if these bays are near the entrances and approaches to car parks, preferably 30 m from the main entrance door. These accessible parking bays should be of 3600 mm by 5000mm dimensions. This ensures that there is enough space at the side for transfer of an individual to a wheelchair. The bays should also have a large accessibility symbol painted on the floor of about 1000mm by 1000mm size so that it can be located easily by the person who requires to use it. It should also contrast from the floor colour. The recommended color for the symbol is blue and white. There should also be a signboard

with the international accessibility symbol at the end of the parking bay at a height of 1200 mm.

Soft landscape

As the hotel uses its largest garden for events such as wedding receptions and birthday parties, they have left the whole garden plain with planted grass. The trees present in the vicinity are planted at the edges of the garden. I suggest the addition of bamboo hedges in the gardens. This will help separate the walkways I had suggested from the middle of the garden which should be left plain for hosting of events. They should also use the bamboo to section seating areas at the smaller garden at the hotel.



Figure 5.28: Bamboo along the side of a path. Image source: <https://www.dreamstime.com/small-path-green-bamboo-trees-pathway-image106635972>

The hotel should add more palm trees at the smaller garden and also add traveler trees and false banana species plant. In order to highlight curves or edges of flower beds smaller dome-shaped shrubs should also be introduced to the garden. They should also incorporate scented plants such as the star jasmine and the brunfelsia pauciflora(the yesterday, today and tomorrow plant). By adding these plants, the garden will appeal to more than one sense of the human anatomy. They should also consider adding plants that shimmer or reflect the moon's light at night such as the lambs ear plant. This gives the garden a magical ambience at night. The gardener should also consider adding more flowers such as hydrangeas and impatiens walleriana(busy lizzie) which blooms and spreads quite quickly.



Figure 5.29: Busy Lizzy flowers indigenous to East Africa, Image source: <https://www.dreamstime.com/photos-images/busy-lizzy.html>



*Figure 5.30: “False banana”*ensete ventricosum* plant that grows to form a crown at the top, Image source: https://www.mindenpictures.com/search/preview/abyssinian-banana-ensete-ventricosum-maurelli-variety/0_00459597.html*

Drainage and Hydrology

Despite the all-round drainage put at the end of the gardens some parts of the large garden have small depressions that keep water when it rains even though the land is fairly flat. Due to this, the hotel should fill up those small depressions and level the ground or make it slop slightly from the center of the garden towards the garden sides to ensure water drains into the provided water trenches when it rains. The small garden however had no drainage and was flooded in the middle. The hotel should level out the ground and slightly slant it towards the left side of the garden. At the left side they should dig drainage trenches for storm water. The hotel should also consider the addition of a water fountain in the larger garden to add onto aesthetics. There is a narrow area connecting the larger garden to the driveway that has a metallic gate at the driveway side and a wooden gate at the gardens side. This area is unutilized and abandoned. I suggest the addition of a fish pond surrounded by paths and vegetation to that area to give it function and make it appealing



Figure 5.31: Pond surrounded by plants: Image Source: <https://www.instagram.com/p/BRDxPfTBj8G/>

Aesthetics and lighting

In order to add to the aesthetics of the garden I suggest the addition of sculptures at the small garden and at the entry of the hotel. I also suggest the addition of garden arches especially at the path leading to the small garden. The arches can be made of metal or wood and can also be accessorized by creeping plants.



Figure 5.32: Garden arch, Image source: <https://www.impressiveinteriordesign.com/garden-trellis-ideas/>

For lighting, I suggest the use of pathway lights as well as vertical lights. These will add to the ambience of the gardens at night as well as ensure one can see well as they walk. For some seats like gabion seats that I recommend for outdoor furniture, lights can be placed within them. I would suggest the use of warm lighting. Lighting should also be provided along the perimeter wall for security and at the parking and driveway.



Figure 5.33: Low profile solar path lights, Image source: <https://www.onlinelightingshop.co.uk/blog/2018-02-13-what-ip-rating-should-i-have-for-my-outside-lights.html>

Structures and features on site

I would recommend that the hotel demolish the shack structure they have at the larger garden and instead erect a better and appealing serving structure. They should also add gazebos towards the end of the garden. This will enable families to seat, eat and enjoy the outdoors comfortably. I suggest that they make the gazebos out of locally available material such as mud, bamboo, masonry or sisal and papyrus which are sustainable. they should have large windows or use screens to make them feel airy and fresh. They should make them of be of biophilic design or draw inspiration from the ancient African architecture.

There should also be other sectioned areas in the garden such as benched areas as well as swinging area for children.as the small garden is unutilized; I would suggest adding a swimming pool area to it in order to give it a function. The swimming pool will serve the hotel guests as well as pull in new customers from the area as there is no other swimming pool amenity within the area. The swimming pool should be constructed with a sloped entry point in order to allow even individuals in wheelchairs to access the pool easily.



Figure 5.34: Accessible swimming pool. Image Source: <http://mypoolguide.com/pool-shapes-features-design-options/>

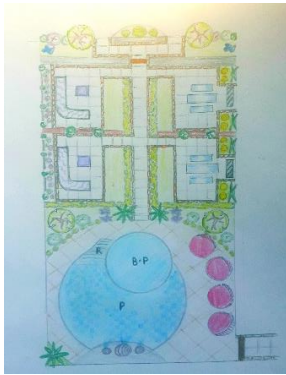


Figure 5.35: Initial sketch of small garden with accesible swimming pool and seating area.(Author,2020)

5.3.3 FURNITURE

Indoor furniture

Bedroom

The bedroom being one of the places where guests spend their private time is one of the most important places to consider while designing. It should be a place of comfort and tranquility. It should also allow the individual using the space to exercise a great level of independence despite their physical or cognitive abilities. The fact that diverse and different guests frequent the Stardom Hotel seeking accommodation, the hotel's bedrooms should be able to accommodate all their guests even those living with disability. That being said, the furniture pieces that are placed in the rooms should offer comfort and ease of use to the guests.

The Stardom hotel should consider using lower beds than the ones they have now. The beds should be at a height of 500mm from the floor inclusive of the mattress. These will ensure ease of the guests as they enter the beds. For this I would recommend low seated beds on a wooden platform as they also add to the aesthetics of the room and the platform can be extended to create a faux canopy that can have an adinkra symbol embedded into it. The platform can also be extended to create floating bedside cabinets. The introduction

of bedside cabinets into the room will enable placement of the tv remote, telephone and other essentials within reach of the user.



Figure 5.36: low bed with accessible bedside cabinets, Image source: <http://www.home-designing.com/low-height-level-floor-bed-designs>

I would also suggest addition of hanging hooks at different heights to allow wheelchair user as well as standing guests to access their hanged coats or clothes. They could also ensure that the wardrobe they have is accessible by wheelchair users instead of installing hooks. The wardrobe could be installed with adjustable rails which should be at a height of 1000 mm or 1400 mm from the floor. A person in a wheelchair can be able to stretch and access things at these heights. As the rooms also have tables, they should ensure the tables are 900 mm wide, 700 mm deep, and 760 mm in height. These measurements are ergonomically appropriate for universal use. Ensuring the table has at least 700 mm height and clear knee recess, ensures a person using a wheelchair can use the table comfortably. The hotel should also place seats that have an armrest in the room as they offer support.

Bar area

For the bar area, the hotel should consider adding bar stools which have a wider backrest rather than a metallic rod which is uncomfortable. I suggest the use of barstools with a sisal woven or rattan backrest or seat as they would add texture to the space and the material is sustainable. As an alternative they can also use upholstered bar stools with subtle adinkra patterns on it to feed off of the bar counter aesthetic as well as bring in more African aesthetic to the bar. The barstools should be at a height between 74 to 92 cm and have a footrest.



Figure 5.37: Bar stool design with upholstery, legrest, and supportive backrest. (Author, 2020)

For the bar lounge I would suggest the incorporation of new and varied furniture. The use of more than one type of furniture in an organized manner will make the space look interesting. Due to this, I suggest the incorporation of floating chairs at the middle section of the space. These floating chairs will be held by metallic rods fixed to the ceiling. They should also be upholstered for comfort with a cushion that is firmer and thicker in the back but less firm and thinner at the front. Chairs with armrests should also be placed in the lounge as they offer additional postural support and aid in standing up and sitting down especially for individuals who require the support due to any physical disability. The individual chairs should be movable in order to make space if needed. The chairs should also have comfortable backrests that angle at 100-110 degrees for comfort. The chairs should be at a height of 450 to 475mm from the floor. The tables used at the bar lounge will be of wood with clear space of 750 mm under the table. The furniture used should also contrast with the floor for easy visibility. The tea counter at the entrance of the bar should also be changed from the antique one they have to a more post modernism styled one and it should be at a height of 850 mm which is suitable even for wheelchair users to serve themselves.



Figure 5.38: ceiling supported seats

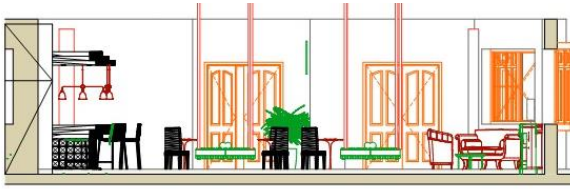


Figure 5.39: Bar lounge with seats at the middle area supported from the ceiling.(Author,2020)

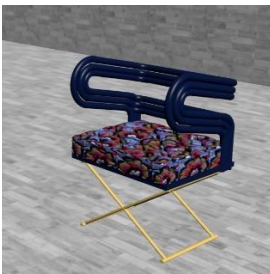


Figure 5.40: Postmodernism inspired lounge seat design with slanted back for comfort and a backrest that falls at the small of the back lumbar region for utmost support and comfort.it is upholstered and has gold steel legs.(Author,2020)

VIP Lounge

I would suggest changing from the common leather sofas in the VIP Lounge to semicircular upholstered or leather seats. I would suggest that the hotel install semicircular chesterfield chairs or tufted chairs into the lounge to give it a luxurious exclusive look. They can either be of deep rich brown faux leather or upholstered in a rustic brown, earth tones or a dark teal. They should be made with a strong wooden frame. The curved sofas will also fit perfectly at the carved wall in the room. The tables used in the bar lounge can also be added here together with the chairs with armrests. The seat at the curved wall should however only have a short stool of 500 mm height placed Infront of it.



Figure 5.41: curved sofa against a curved wall, Image source: <https://www.housebeautiful.com/>

Outdoor Furniture

The hotel has very few if any furniture outdoors making it hard for their guests to enjoy the landscape. I would suggest they incorporate gabion furniture into their outdoors. This type of furniture uses rocks which are easily available wrapped up in wire like a gabion to create support. They are very strong and sustainable. They either can have a concrete seat or hardwood seat. They can use outdoor friendly wood such as cypress, cedar, mahogany, acacia or teak. These woods are best as they are dense therefore insect resistant as termites cannot bite into them. They also don't disintegrate when wet which normally makes wood easier for termites to process. They could also make the gabion seat out of wood-plastic composites (WPCs). This is a material made out of pulp and sawdust that would have been initially thrown out combined with various plastic composites. Gabion furniture are durable no matter the weather thus the staff do not have to keep on returning the furniture indoors as they usually do for their current furniture.



Figure 5.42: Gabion outdoor seats with granite table top and wooden seat tops. Image source: <https://www.stylemotivation.com/20-amazing-gabion-ideas-for-your-outdoor-area/>

I would also suggest that they add benches made of concrete especially in the smaller garden. They should also add round tables and seats for the gazebos made out of WPCs as they can carry heavy loads, are highly rot and insect resistant and require small furniture. All the outdoor chairs should be 450mm in height and all tables should be 750mm high. All the fasteners used in the outdoor furniture especially the ones in the gazebo should use stainless steel or have a rust proof coating.

Accessory Furnishings

The accessories found in the hotel include bathroom mirrors. I would recommend that the hotel change its mirrors to pure mirror ones without frames. They could also give them accented frames instead, ones embedded with beautiful adrinka symbols instead of the unpolished wood frames they have as of now. They should also ensure the mirrors are tilted or swivel mirrors which should lie at a height of 1000mm from the floor. These mirrors tilt to allow a seated person to see themselves clearly. These mirrors also assist the elderly, short kids or people as well as people inserting contacts into their eyes. Swivel mirrors are also good for tall people if they can be tilted upwards.



Figure 5.43:permanent tilted bathroom mirror

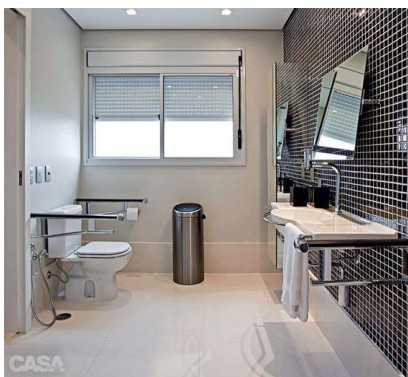


Figure 5.44:adjustable mirror

The hotel should also ensure accessories such as dustbins and planters are kept out of way. This should be especially done at the bar lounge which has planters in the middle of the room reducing navigation space. They should be placed along walls to ensure barrier free design has been kept. I suggest the hotel use sisal basket planters as they are made from sustainable material, are aesthetically appealing and will enhance an African aesthetic in the rooms as well as add interest in texture. Larger ceramic pots can be used in the landscapes and VIP Lounge.



Figure 5.45:Sisal planters. Image source: <https://www.thelittlemarket.com/products/striped-sisal-basket-orange?variant=12249162219555>

The hotel rooms should be fitted with updated white sheer curtains with either a top and bottom border or an edge border comprising of adinkra symbols. The hotel should also consider making available foldable bed rails to assist disabled people transfer comfortably onto the beds. They should also ensure other accessories such as beepers and vibrating

pillows are available in the rooms. These accessories help in alerting deaf individuals in case of any alarm.



Figure 5.46: Updated sheer curtains. they have been added with a pattern. Image Source: https://www.pinterest.com/pin/133630313922071282/?nic_vl=1aYsAJyJ5PKfoNrqtqDlKnO5ER4I01l%2FJ8UbsfNZZLc8GdjBbN9Sj%2BqriMLCrbSiKK



Figure 5.47: beepers that alert deaf people in case of an emergency and facilitate communication in writing to the hotel staff. Image Source: <https://www.call-systems.com/sectors/hotels/staff-paging/>

5.3.4 EXHIBITION AND DISPLAY

Signage

When people come into contact with a new environment, they spend the first minutes of their time there trying to familiarize themselves with the area. Signage is one of the most important aspects that enable the person know what is in their environment and what direction to go. The stardom hotel has all its signage indoors. They are mostly put on the doors or at the ledge above the door. They are mainly of words and in some cases such as the bathrooms, a pictogram sign is placed on the door itself, separate from the typed sign. The signage is gold in nature with the writing in black and the letters are capitalized.

In order to make the signage used in the hotel accessible to all there are some placement and design considerations that should be put in place. The hotel should ensure there is high color contrast between the text and background in their signs for optimum clarity. The hotel has tried to incorporate this as their signs are of gold and black, thus contrast, however the material the sign is made up of may be an issue. Even when ensuring there is visual contrast, they should also take the signage material into consideration. They should use materials that do not create too much glare as this may affect the visibility of their signage especially for people suffering from low vision. Some of the best visible contrasting colours include black and white or black and yellow.



Figure 5.48: Visual contrast in signs. Image source: <https://www.ideationorange.com/outfield-lofts-custom-wood-ada-signs-brand-ballpark-lofts/>

One of the things Stardom should incorporate in their signs is the use of pictograms and tactile information such as braille and raised letters. Not all signs can have pictograms but some like the ones indicating bathrooms may have both words and symbols. I would advise that they do create one sign instead of two different signs for the bathroom. The sign should have braille in order for blind people to be able to identify those rooms. The pictogram should also have the words on the same sign as it may be difficult for some individuals to comprehend what the sign means. For the tactile information on signs, they should ensure that the raised letters have rounded edges and at a height of 1 mm. The braille dots should be dome shaped, not flat or pointed and have a spherical radius of at least 0.80 mm, a base diameter of 1.2mm- 1.6mm and a dot height ranging between 0.4mm – 0.9mm. The tactile part of the text should be left justified and the placement of the text should be uniform all

through the signs making it easy for the visually impaired to know how to locate them. Directional arrows can also be added to the signs and if so, should be placed right below the braille and should be raised.



Figure 5.49: Sign with tactile information as well as a pictogram. Image source: <http://ada-braillesigns.sell.everychina.com/p-108796463-brushed-acm-ada-braille-restroom-signs-rounded-corner-1-32-quot-raised-text.html>

The text on the signs should be of San serif font and should not be stylized such as in italics. This is for better visualization. Some san serif fonts include Arial, Gill sans and Argo sans. It is advisable that the hotel avoid use of all uppercase text as they have done in their signs. It would be better if the signs in the hotels have the initial letter of each word in capital instead, for example; Changing Room. They could also incorporate task lighting to assist in visibility and easy location of the signs especially at night and especially for individuals suffering from poor vision. The signs should have appropriate spacing between letters of minimum 2mm and spacing between words should be of minimum 10 mm. This will ensure proper legibility of the text.



Figure 5.50: Room number sign with task lighting. Image source: <https://www.bhg.com/shop/luxello-modern-illuminated-address-panel-with-doorbell-paab41eff8e44088ebc70a95336250e83.html>

As the hotel does not have any parking lot signs or exterior signage, I would recommend that they consider adding some especially as the entrances to the gardens are hidden. They should introduce driveway and parking lot signs with designated colours and symbols along with parking numbers. As stated in The City of Calgary's Universal Design Handbook (2010), this helps in information recall as different people rely on different cues. The hotel should also put in signs that direct people to the garden, gazebos or any outdoor facility. These signs should be placed at a clear line of sight whether someone is seated or standing. I would recommend the hotel to place the exterior signs at a height of 1200 mm as this will be visual to all and also accessible by individuals with visual impairments to locate with their hands easily

The hotel should also consider changing the placement or position of their signs. They should consider the blind and visually impaired who use their hands to feel tactile signs as they place their signs because if the signs are too high or too low, they would not be able to locate them. The hotel should consider placing their indoor signs at a more central position. They should also be placed at the side of the door just before the door frame or the detitanation, in the hotels case, it should be applicable to the doors that stay open most of the time such as the bar, the VIP lounge, restaurant and kitchen. They could also do this for the doors that mainly remain shut or place them on the door itself at a central position or a position that is not too high away from the top frame of the door. If they decide to place the signs on the hinged side of the doors or on the latch side, this should be followed all through the hotel. The signs should all be on a similar side for easy location. The sign's bottom should be at a height of 1200 from the ground. This will make the signs more accessible. The hotel should also consider putting signs at the entry point of their corridors.

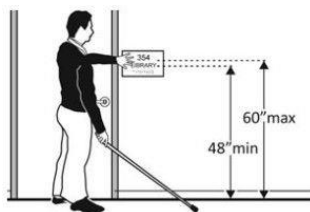


Figure 5.51: Ideal height for accessible signage. Image Source: <https://eriecustomsigns.com/ada-signs-mounting-height/>

Bar Display

As the bar present at the stardom hotel is small and cramped, I would suggest making it a bit larger to accommodate more seating space and storage. I would recommend changing the bar from a kegger countertop to an L-shape counter top. This will allow for its extension. As there is a pillar present in the middle of the bar, it normally looks misplaced. In order to camouflage it as well as make it functional, I would recommend using it as a drink display by building a display unit around it. Figure 5.44 shows my recommended design for the pillar which takes up minimal space as well as aims to give it function and an aesthetic feel as it incorporates the use of adinkra symbols and task lighting. The display is of mahogany wood material which is strong and durable.

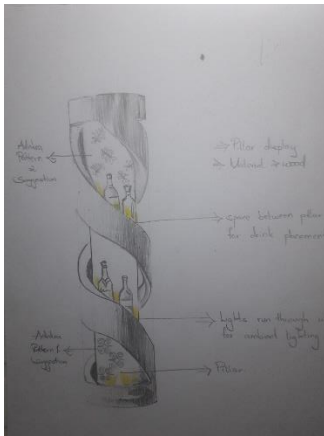


Figure 5.52: Pillar display sketch of wooden material. (Author, 2020)

As the hotel's bar had a lot of storage issues to a point of storing wine glasses at the counter, I would recommend the addition of storage cabinets at the back of the bar. This would help in the storage of wine glasses, cocktail shakers, straws among other bar utensils. I would also recommend the addition of a liquor display unit at the back at a higher height about 1500mm from the floor. The display unit should be aesthetic. I would recommend it have round or multi-shaped partitions with pluck lighting or LED disks within each partition to highlight the drinks on display. This will enhance the ambience as well as visibility especially at night. An aesthetic display unit can also be placed at the center.



Figure 5.53: Liquor display with task lighting. Image source: <https://designanthologymag.com/story/b-bar>

The bar counter should be of a height between 1070mm to 1100mm and if possible, the height could be lowered in some parts to a height of 900mm to allow for individuals using wheelchairs to access the bar and interact with their friends. The hotel should also increase their bar counter knee space to 240mm or 300 mm. This knee allowance is enough for ideal comfort of the customer. There should also be a leg rest bar running across the bar. The counter depth should be of 500 mm. the front face of the counter should also be fitted with LED lights at the top and bottom. These should run all along the length of the counter. This will boost the aesthetics of the bar, increase visibility as well as emphasize the counter design. The counter's front face will also have a pattern of the adinkra symbol, aya, running all through its length. This will enhance the aesthetics of the bar.



Figure 5.54: Bar counter with LED ambient lighting. Image source: <http://timogroup-com-cn.sell.everychina.com/p-102681013-.html>

Bathroom

As the rooms at the hotel are all ensuite, bathrooms are an important aspect that the hotel needed to ensure universal design was considered. I would recommend that the hotel ensure

that the water basins are more to the front of the bathroom counter for ease of reach by individuals in wheelchairs. The counters should also be at a height of about 800mm, ensuring they do not exceed a height of 900 mm from the floor. The hotel should also remove the cabinets below the counter and leave them devoid of any obstruction. This will ensure that wheelchair users have enough room to slide under the counter to allow for comfort and easy reach of the wash hand basin. I would also suggest that if the taps are too far from reach, they can place them at the front face of the counter at the wash hand basin's side. This will ensure ease in reach by people in wheelchairs. This can be done in select Universal Design rooms.

By removing the cabinets at the bottom of the bathroom counter, we would have reduced the storage space in the bathroom. In order to ensure there is enough storage in the bathroom, I would suggest the inclusion of a wall embedded shelf. This means that a section of the wall would recede into the wall and shelves will be screwed within the space at equal intervals. The lower shelves will be used for storage of towels and other amenities, while the highest shelves will be used for décor placement and small potted plants. A stool made of sisal, rattan or papyrus can also be added below the bathroom counter for towel placement or to be used by individuals with weakness in their feet to seat as they shave, apply makeup or brush their teeth.



Figure 5.55: Recessed shelf. Image source:
<https://www.familyhandyman.com/woodworking/shelves/built-in-shelves/>



Figure 5.56: Bathroom design sketch with recessed shelf and glass wall separating the shower area from the rest of the bathroom.

I suggest that the shower area have a small division wall made of glass blocks. The hotel should also add shower stools or wall mounted shower seats into the shower area. The shower seat should be near the water tap for easy opening and closing of the taps by the seated individual. The shower seat should have rounded edges and be self-draining. If possible, the seat should be hinged to allow for it to be folded after use. The hotel should also eliminate the use of shower trays in their bathrooms as they have a high ledge that wheelchair users find difficult to pass over. They should instead incline the shower floor towards the drain to allow the floor remain flat while avoiding flooding of water in the bathroom.



Figure 5.57: Collapsible self-draining shower seat. Image source: <https://www.livingmadeeasy.org.uk/personal%20care/hinged-shower-seats-for-heavy-duty-and-bariatric-use-p/fold-up-wooden-slatted-seat-with-support-legs-0026442-706-information.htm>

One of the major additions I would suggest are grab bars all around the bathroom. They act as supports for disabled people. They should have a circular section of diameter 30-45 mm. I would suggest the addition of grab bars to both sides of the toilets, and one could actually have a small bar attached to it for toilet paper placement. This will ensure the toilet paper is at close reach. If possible, addition of a horizontal grab bar on the wall behind the toilet should also be done. Grab bars should also be placed at the front face of the bathroom counter for support. There should also be the inclusion of horizontal as well as vertical bars at the shower area especially near the shower seat and near the taps. At the tap side the vertical grab bar should be 500 mm long with a distance of 600 mm from the wall and a height of 600 mm from the floor. The towel rail should be installed at heights of either 900 mm or 1100mm from the floor.

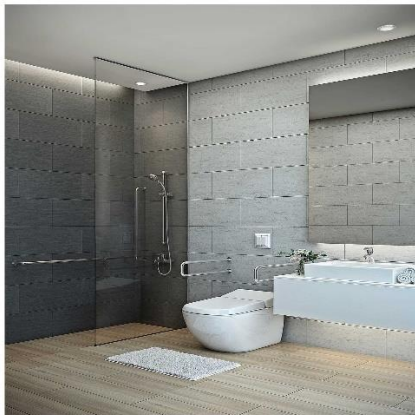


Figure 5.58: Accessible grab bars in a washroom. Image source: <https://wpldesign.com/universal-bathroom-design-and-remodeling/>

5.4 CONCLUSION

You can have a beautiful space but if it is inaccessible, no one will ever appreciate its beauty. In the same way guests suffering from disabilities may want to stay in beautiful hotels but if the environment in the hotel is not sympathetic to their needs, they may prefer a smaller more accessible hotel. By designing for everyone, hotels boost their market as well as gain the satisfaction of providing good service to all their guests. Universal design should be a given in all hotels in order to ensure no guest is left out. Aesthetics should also not be compromised because of accessible design. They should both go hand in hand and

what could be better than a well thought out African aesthetic. Africa is a boiling pot of cultures, design and natural sustainable material. This should be exploited in order to achieve beauty as well as celebrate the African heritage.

5.5 SUGGESTION FOR FURTHER STUDY

I suggest further study on the available universal design criteria that can be implemented in Kenyan hotels at an affordable price. I also suggest further study on the universal design policies that can be enforced in the built environment by the Kenya Disability Act. I would also suggest the research on new materials that can be made from trash and the technology required for this to happen in Kenya.

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Appendix A

Interview Guides

Below is the interview guide the researcher used during the interviews.

- 1) Preparation
 - Activate voice recorder
 - Have a notebook and pen at hand
- 2) Staff and Manager interview pointers
 - Does Stardom ever host disabled guests?
 - Is assistance given for disabled guests?
 - Does anyone know sign language?
 - Do disabled guests access the garden. How? do they require assistance?
 - What function does the smaller garden serve?
 - What complaints have you ever received based on the spaces and environment?
 - Do you know what Universal design is?
 - What is the most accesible space in the hotel in your opinion and why?
 - Is space a problem in the hotel?
 - How do you arrange the tables and chairs and is it always constant?
 - How do you decorate the hotel and why?
- 3) Customer interview pointers
 - Do you love the aesthetic of the hotel?
 - Are the seats comfortable?
 - Are you able to move around freely ?
 - As an able bodied person would you come with a disabled person or a mobility vchallenged elder to the hotel.Why?
 - Disabled: have you faced any difficulty in the hotel?
 - Disabled: If any, what are they, what do you wish would improve?
- 4) People on the street interview pointers
 - What was the best hotel you ever went to and why?
 - Knowledge on Universal design.
 - Knowledge on African design.
 - Disabled: experience in using Nairobi hotels.
 - Disabled: Do Kenyan hotels consider the disabled in their design?

Appendix B

Observation checklist

Table B-1: Table showing the things the researcher made sure to observe. (Author, 2020)

Ceilings and floors	☀	Tactile signage	✗	Handicapped toilet	✗
Wall finish	☀	Display & storage units	☀	Handicapped parking	✗
lighting	☀	Furniture types	☀	ramps	VF
Light furnishings	☀	Furniture colour & design	☀	vegetation	☀
Layout	☀	Furniture material	☀	Landscape structures	VF
Seat arrangement	☀	People interacting with the furniture	☀	Garden accessories	✗
Colour scheme	☀	Things that can impose as barriers	☀	Grab bars in bathrooms	✗
Décor and aesthetics	VF	Drainage	VF	Outdoor furniture	VF

Note: VF- Varied findings ☀ - present ✗ - None