

Wayfinding Signage in Jeddah Historic Site (Al-Balad)

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Submit Date: 2024-08-19 00: 15: 22 | Revise Date: 2024-12-22 13:33:02 | Accept Date: 2024-11-02 09:03:19

DOI: 10.21608/jdsaa.2024.313206.1423

KEYWORDS:

Wayfinding System#1, Signage#2, Visual communication#3, Service design#4, Environmental design#5.

ABSTRACT:

Designing an effective wayfinding system for directional purposes are considered one of the most efficient ways to direct tourists worldwide. the wayfinding system in Historical Jeddah (Al-Balad). This would be through the instructive method of analyzing elements of the visual identity in Al-Balad and how it relates to the directional signs. This study focuses on the six terms for directional signs produced by Zubaydullayev (2023) for the visual analysis of the directional signs in Al-Balad at present.

The researcher concludes that despite the huge efforts by the authorities, there still is a need to focus on this area more. It suggests a unified directional sign design that would consolidate the cultural identity of the region. Furthermore, the visual homogeny would improve by a cohesive joining of traditional identities and modern methods of crowd guiding. Signs should be fitted to remain for years to come. Therefore, a strong representative sign design should be considered. This will maintain the integrity of the historical location and increase the comfort of visitors, making their experience seamless.

1- Introduction

Jeddah is one of the main cities in Saudi Arabia and the second largest after Riyadh. Located on the eastern coast of the Red Sea, it developed as a seaport and airport for the city of Makkah, facilitating the reception of pilgrims visiting Makkah for Hajj and Medina. Its strategic location has made it a commercial trade hub and a centre for cultural interaction between the East and the West (Nyazi et al., 2018). Due to its importance, the city has received significant government attention and boasts advanced architectural developments.

In 2014, Jeddah joined the UNESCO World Heritage List due to the registration of historic Jeddah, Al-Balad. Al-Balad is rich in historical culture, with ancient buildings and alleyways. Among these structures are over ten large ancient houses belonging to well-known families, some dating back to pre-Islamic times (Ahmed et al., 2023). Many of these houses have been transformed into art galleries and cafes. Al-Balad houses are known for their wooden "*Rawashins*" covering the windows, showcasing authentic architecture that contrasts with the contemporary views in front of them (Hadrovic, 2024). Research by Bajaber and Muhammed (2022) proposed establishing a cultural hub in Al-Balad to gather all galleries, build museums, and create open spaces related to Jeddah's culture, design, and art. This initiative aims to promote the area's vibrancy and emphasize the importance of education by various means such as organizing events and festivals related to the Jeddawi culture, partnerships between the Ministry of Culture and educational institutions to provide workshops and tutoring, and equipping corners of the area with books and establish a community library to encourage visitors to read to all ages. In order to achieve this, considerations about the nature of public

space, museum design, and wayfinding are all relevant.

2- Research aims:

The aim of this research is to analyze the graphic design elements present in the Al-Balad and determine their impact on visitors' experiences of perception and satisfaction by analyzing the visual identity, colors, configurations, guide signs, images, technology, and materials used. The result will be recommendations for a well-planned area, tailored to visitors' needs, easy to navigate, harmonized in its overall urban design.

3- Research Methodology:

The research used a visual descriptive analytical approach, as it delved into the analysis of the various graphic design elements and their impact on visitors' experiences. This was done by visiting the site of Al-Balad for two times solo and one time with a guide and photographing the areas there. The visits were from 5:30 pm to 7:30 pm since the weather would be cooler this time of the day and to notice the clarity range of the signs in the daylight and at night. Keeping in mind there is no specific entrance to Al-Balad, it is important to analyse the branding visual elements to ensure Al-Balad's identity is consistent with all new materials can be added after that. It also important to avoid confusion of the site, which leads to a positive experience there.

The descriptive analytical research approach was considered that helps to analyse the basic requirements for a higher standard navigation signage system, as established by Zubaydullayev (2023). The requirements are consistency of visual elements, aesthetics, informative, visibility, tolerance and adaptability. This framework was selected as it offers a clear agenda that helps the researcher in avoiding unnecessary steps and focusing on the most crucial phases of the

study. It also provides a universal, objective, and user-centred framework for analysis, giving a functional insight that can enhance the implementation of efficient wayfinding systems.

4- Literature Review:

- 4-1 Public Spaces

To enhance the visitor experience, public spaces should provide a sense of safety, comfort, and pleasure, with aesthetically pleasing environments that give visitors a sense of control (Mehta, 2014). Effective public space is characterized by its accessibility and multifunctionality. Emphasizing the quality of public spaces through visual identity can stimulate symbolic identification, expression, and cultural fusion (AlMalik, 2017). On the other hand, visually unpleasant elements and inconsistency within the overall sight in historical urban areas has been found to detract from their appeal (Mundher et al., 2022).

Al-Balad can also be considered a museum that encapsulates the antiquities and cultural habits of Saudi Arabia, particularly the Hijazi culture. Linking it to museum design may also enhance visitor experience, educational opportunities, and showcase its collection while providing resources and vision for the area to flourish and leave a lasting impact on visitors (Annechini et al., 2020). The visual system is essential for the conception of such a site (Zhao et al., 2022). A study by Almomani et al (2024) found that design choices in museums can evoke emotion, effectively convey information, and enhance engagement, emphasizing unity, cohesion, and innovation in design.

- 4-2 Visual Identity and Branding

Visual identity, which includes elements such as the name, visual logo, typography, color scheme, and slogan, plays a crucial role in distinguishing and representing a brand (Silva-Rojas and Roast 2006). Logos, as a

fundamental aspect of visual identity, encompass colors, symbols, and text to convey specific meanings and differentiate brands. According to semiology, a logo functions as an indication of the brand's message (Gretzel and Collier de Mendonça, 2019). The aesthetic and emotional impact of logo design, including its ability to influence behaviour, is essential (Jiang et al., 2016). Logos may be purely graphical, textual, or a combination of both, and their design can significantly affect brand perception.

- 4-3 Signage and Wayfinding Systems

The signage system is a crucial aspect of wayfinding, helping visitors navigate and evacuate spaces. Hughes and Brown (2015) found that visitors often ask employees for directions, which is inefficient for both staff and visitors. Effective signage systems are vital for enhancing communication and accessibility, particularly in environments like healthcare facilities (Rodrigues et al., 2019). A 2023 study in China analyzed the signage guiding system at Henan Province Hospital, emphasizing the importance of understanding visitors' needs and designing eye-catching signage through a human-centered design approach (Dolah et al., 2023). Safety, comfort, and the use of universal language are crucial in designing signage for tourism areas (Isyraqi and Swasty, 2016). Godfrey (2015) suggests that applying usability principles in communication, using simple, personal, and sociable language, is effective.

According to Symonds (2023), when it comes to locations that would be visited by visitors of many different nationalities, it is important to shorten sentences, be consistent not only in the design also on naming locations, use internationally known pictographs and texts together and colour coding to highlight important information. A study by Rana (2024) to redesign a museum experience found that it is important to design

multilingual maps, and for a better experience using artificial intelligence for visual descriptions and translations and promoting an augmented reality navigation system. According to Lubega (2023) to ensure successful communication, designers should use respectful language and respect diversity.

Navigating the numerous zones, streets, and narrow alleys in Al-Balad can be challenging, particularly in this lively area frequented by people from around the world. A central concept in understanding these challenges is 'wayfinding,' which refers to the process of navigating from one place to another (Trulove, 2001). Effective wayfinding involves interpreting a system of navigational features, including clear paths and visual, verbal, and auditory clues (Yang and Merrill, 2022). Research indicates that wayfinding is a complex practice, and poorly designed systems often lack sufficient information or feature poorly designed way-showing elements (Al-Sharaa, 2022).

For example, a study evaluating the quality of spaces in Al-Balad found the design's inclusiveness to be "very bad," recommending better inclusivity measures for the public area (Imam et al., 2023). This underscores the importance of creating and interacting with pictorial forms of information, which are seen as universal forms of communication, especially for a multicultural audience (Karman, 2021). Wayfinding signage plays a crucial role in this process by using concise graphic symbols to convey accurate information through visual communication and environmental design (Zhang, 2005). The Australian state of Queensland's Department of Transport and Main Roads even provides guidelines to develop a signage visual identity, emphasizing the use of internationally recognizable symbols and high-contrast colors (Bomfim and Cruz, 2023).

A robust wayfinding system should include clear signage, high-contrast conditions between walls and floors, and elements from the site's visual identity to enhance navigation (Jiang and Verdeber, 2016) and reduce confusion and frustration (Van Buuren and Mohammadi., 2021). Additionally, well-designed areas and clear signage promote a sense of community and interconnectedness (Al-Madwary, 2023). Wayfinding has been the subject of interest in various contexts. Rodrigues et al. (2018) regrouped and modified UK National Health Service design recommendations for signage development into nine categories: text formatting, information hierarchy and density, language and terminology, symbols and pictograms, colors, placement, dimensions, and typology of signs, illumination, visibility, and legibility, standardization, inclusivity, and user characteristics. They found that wayfinding systems are more than just signage; they are a combination of architecture, landmarks, colors, lighting, signs, human communication, and technologies.

A study in Lushan Mountain, China, suggested incorporating sustainability into wayfinding signage design with strategies such as unified modeling, detachable structures, appropriate font sizes, applicable signage information, simple raw materials, and combinability for reduction and recovery (Wan et al., 2019). Another study emphasized the importance of design thinking in implementing a signage system at the University of Technology, Sydney, proposing six types of signage: directional, identification, instructional, regulatory, informational, and fun, to enhance user experience (Luca and Narayan, 2016). Focusing on solving area-specific problems with a design thinking approach, which needs to be repeated whenever new issues arise, is crucial (Jalees, 2020). This will make signage

adaptable for different environments and events (Osborn, 2022). Zubaydullayev (2023) highlighted the importance of developing a navigation sign system to increase the attractiveness of Russian cities for tourists, setting basic requirements for a better navigation signage system: informativeness, visibility, consistency of visual elements, aesthetics, tolerance, and adaptability. A study on wayfinding systems in Thailand's train stations (Puttipakorn and Upala., 2018) found that designing such systems requires considering the information needed for different types of signs. Signs showing the direction of individual destinations (i.e., 1-point locations) are distinguished from signs focusing on the direction of multiple destinations (i.e., 2-point and 3-point locations), with 3-point location signs requiring a greater emphasis on the routes between.

Shehata (2022) stresses the need for a clear wayfinding system in Al-Balad, but a case study by Fahad (2022) indicated that tourists might not fully experience historic Jeddah due to inadequate wayfinding systems. Fahad suggested developing an application to guide visitors through the area. This suggestion is supported by the work of Khayyat et al. (2020), who find that combining maps, location technologies, and augmented reality with mobile applications can significantly improve wayfinding systems in both indoor and outdoor areas. Illegible signage can create a negative impression and lead to a loss of user confidence in the directions provided.

5- Findings

- 5-1 Logo Design:

The logo used in Al-Balad focuses on simply the name of the site utilized in text. This type of logo which consists only text can be simple and effective to communicate the message of the brand. This is by putting in mind elements

which make the logo stronger such as the glyph structure, line thickness, body decoration and colour (Liang, 2021). The font is a mix of San serif style playing with Arabic calligraphy and developing it with modern design concepts, which can be seen in the bold font that has been used in the logo. It also can be seen the slanted corners in the letters. It also a little condensed as designers can enlarge letters while maintaining the minimum horizontal area, which is a good approach for writing titles. The logo is balanced and cohesive. Additionally, the 'Fataha' symbol on top of 'AlBa'a' letter on the middle of the word emphasizes how the word is pronounced in Arabic. The Arabic language is used in the logo as it is the main language of the city and wider country. Under the logo is its slogan in Arabic: 'historic Jeddah' following the same typeface and under the Arabic slogan is the English translation for the benefit of international tourists, simply stating 'Al-Balad historic Jeddah' in sans serif capitalized texts.



Figure 1: Al-Balad logo design

- 5-2 colour Scheme:

The colour scheme for the logo is inspired by the architecture of Al-Balad and its Hijazi houses and buildings. The logo is in one colour, black, with connotations of authority, discipline, strength, protection, and confidence (Akhil, 2021). According to Gordon, the colour black is trending

nowadays among brands to give the impression of “an established company” (2023). The background is a light greyish beige which reflects the colour of the coral limestone used to build the historical buildings in the neighborhood (Al-Khudair, 2022).

Another colour used is green, which is associated with plants, growth, and fertility. Moreover, grey also features, which represents wisdom, calmness, maturity, and flexibility (Olesen, 2022). In addition, orange is one of the main colours there as it means optimism, warmth, and spirituality, which is associated to the culture living there (Mse, 2023). These colours are used in Al-Balad signs, mainly outdoors.

- 5-3 Visual Signage:

The Twothirds’ design signs in Al-Balad displayed in their portfolio show one thing they have in common, which is straight light vertical lines in the background. It gives the feeling of ‘Rawashen’ that was built by wood to cover windows in the historical buildings and that signify the Hijazi style. For ‘WC’, an icon that represents a woman with Hijazi cloth symbolizes the female restrooms while an icon of a man with Hijazi cloth represents a male area. Moreover, other important signs have been designed that contain an icon of a historic building, representing landmarks related to the area. A door with a curved top represents boutique hotels and other accommodation. For stores and retail outlets, an icon of a shopping bag symbolizes a marketplace. For food, an icon of a plate represents restaurants and coffee shops. An octagonal star symbol represents the culture of old Jeddah. It symbolizes saving qualities of civilization and leadership (Esseghir, 2023). This eight-point star has a crucial place in Islamic art and architectural layout. According to Clark (2004) this star signifies

God’s throne and the eight angels around it on Judgment Day. Inside all the octagon’s points comes out lines that meet in the middle, which could suggest connection and peaceful relationship in the area. Finally, the rhombus shape symbol is used to represent the art and innovation area. The area of art in Al-Balad is a place where artists and craftspeople have studios where they sell their pieces and teach visitors as well their crafts for a modest payment. Visitors can learn wood crafting, calligraphy, ceramics, textile and so on. The use of the rhombus shape is established regularly in the middle of Asian ornamental visual art (Sobitovich, 2024). This essential frilly shape in folk art symbolises totalization, associating successfully with the square, circle, and triangle, creating a ornamental family (Cazac and Adascalita, 2023). The four lines inside it that meet in the middle indicate “good relations in family and neighbour and protection to prevent calamity” (Naro et al., 2022).

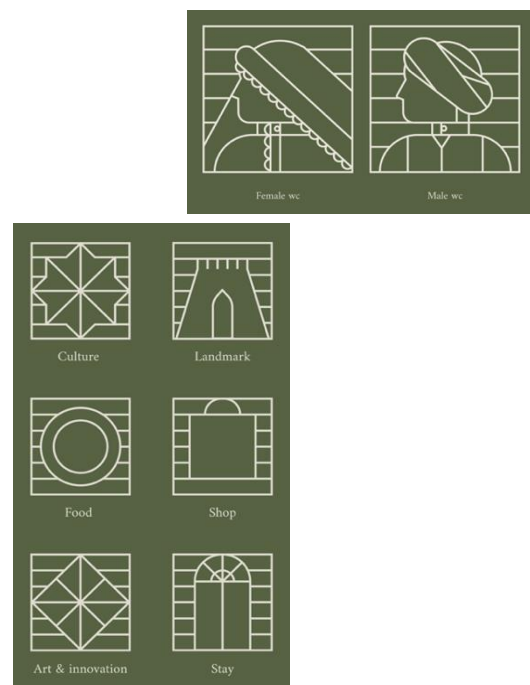


Figure 2: Visual signage of Al-Balad.

- 5-4 Consistency of visual elements:

In Al-Balad, even though the branding is well-established and robust, it was noticed that signs within the same site were varied in fonts and colours. Some of the signs can be related to the visual identity of the site and others were old and not yet been removed. Visitors may struggle to differentiate between various types of information, such as directions, warnings, and informational signs. This inconsistency could lead to misinterpretation and errors in navigation. As for colours, some signs use the red colour in the middle of the pathway, while other signs use dark brown, which is linked to the colour brown on the branding palate. Finally, the old sign that was used before is the lighter brown colour signs, with white frames around it.

In the main, these signs use both Arabic and English. Arabic is the main language of the country and English is an international language, widely spoken by tourists from around the world and thus making it essential to be incorporated in signs to communicate with different cultures effectively. Notably, one of the signs on the narrow pathways in Al-Balad uses only Arabic, which could lead to non-Arabic speakers becoming lost.

Variations in the layout and size of Al-Balad signs can affect their visibility and legibility. There are signs that are too small or placed in inconspicuous locations that may go unnoticed, while those that are too large may overwhelm the visual field. Consistent layout and sizing help would maintain a balanced and effective visual communication system.



Figure 3: Directional sign boards in different locations in Al-Balad.

- 5-5 Aesthetics:

Aesthetics is vital because it gives a positive experience for visitors and reinforces the functionality of the interface design (Siyanbola et al., 2023). Considering it in this crucial site during events such as Formula 1, temporary signs, banners, and posters are often erected in Al-Balad to guide participants and provide information. These additions can disrupt the existing aesthetic by introducing modern or commercial elements that clash with the historical ambiance. Moreover, festivals and celebrations often bring decorative elements such as lights, flags, art installations and their own identity. When thoughtfully integrated, these can enhance the visual appeal and provide a festive atmosphere that complements the historical setting.

Ornamental signs serve as decorations or decorative elements intended to beautify, enhance, or adorn the overall appearance of an environment or as a complement to a sign. These signs include, among others, banners,

flags, fences, memorial monuments, and attention-grabbing forms (Fhadil, 2024) Using materials that reflect the traditional building methods of Al-Balad, such as coral stone, wood, and plaster, helps create a cohesive look. Textures should mimic those found in the historical structures to blend seamlessly with the surroundings. For example, signs for WC were crafted in woods (Figure 6), reflect the architecture there. The drawback in this case is that there is no wayfinding sign that guides tourist to this WC location.

Choice of fonts, symbols and colours can visitors both psychologically and physiologically (Siyanbola et al., 2023). Design choices in these areas involve consideration of the space and other visual elements that are used. Signs which are legible yet resonate with the historical context is also vital. Arabic calligraphy and motifs inspired by Islamic art can enhance the aesthetic appeal and cultural relevance of the signs which can be seen in the shopping signage unification. Earthy tones, whites, and blues are commonly seen in the traditional buildings and can be seen is used effectively in Al-Balad's wayfinding elements.

Finally, because of the construction work happening of many ancient buildings in Al-Balad, it is important to enhance beauty in the site. Many buildings were surrounded by a walls covered by pictures reflecting the life of the city with its logo incorporated with the Ministry of Culture logo.



Figure 4: Construction site covered with interpretive design.



Figure 5: Formula 1 branding in Al-Balad.



Figure 6: WC signs for men and women in Al-Balad.

- 5-6 Informative:

Wayfinding systems can serve an educational purpose by incorporating information about the history and significance of various landmarks. Thoughtfully designed signs and plaques can enrich visitors' understanding and appreciation of Al-Balad. On the researcher's visit, the only sign with brief information was the one about *Al-Ma'amar* Mosque, which is

placed in front of the building with bilingual information that can be understood by locals and international visitors. The use of language is simple and clear with readable fonts, keeping in mind that it is difficult to read at night because there is no direct lighting. On the other hand, many signs feature no information on important landmarks other than the name of the site. Many signs such as *Harat Albahar* are located away from the actual location, lacking wayfinding information for visitors to help them reach the site. In addition, the site did not incorporate iconography, which is a universal language for all.

There are some signs in specific areas which incorporate infographics in their panels, such as the '*Alatara pathway*' (spices pathway), which features transparent containers illustrating the various spices. Moreover, there is only one map board in '*Harat AlMazloum*' that is located in the way out of Al-Balad. It provides an overview of the area, highlighting important landmarks, routes, and amenities. It also shows the visitor's location. Under the map there are three arrows that show three important entrances to historical Jeddah: '*Bab AlSabba*', '*Bab Jadid*', and '*Bab Makkah*'. With a green figure passing in the top left side of the board that can indicate that this map is for pedestrian walkway only.

Many important landmarks and buildings in Al-Balad lack identification signs to guide the visitors, leading those visitors to ask locals to explain the importance of the sites and its history. Events may introduce digital wayfinding solutions such as mobile apps, QR codes, and interactive kiosks. While these are modern interventions, they can be designed to blend with the historical aesthetics by using appropriate color schemes and fonts.



Figure 7: Wayfinding banner for Al Dahab Street and Al Bahar, situated away from the location.



Figure 8: Banner for Al Ma'amar Mosque located four meters in front of the location.



Figure 9: Infographic design about spices in Al Atara pathway.

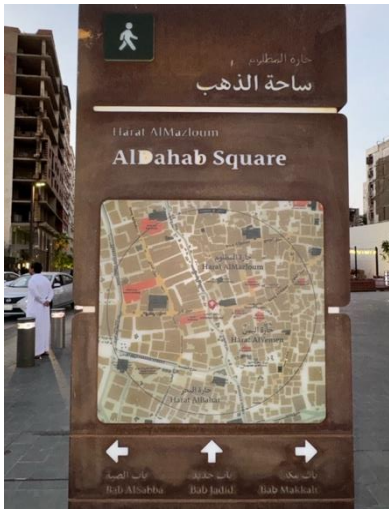


Figure 10: The only directional map of Al- Balad in Al Dahab square.

- 5-7 Visibility:

In Al-Balad the variety of sizes and designs of wayfinding signage has the potential to confuse visitors or fail to catch their attention. There are many ‘digital posters’ used in festivals and seasons are not used anymore and closed. Effective crowd management often requires additional wayfinding aids such as barriers, ropes, and digital displays that can be seen effectively by them without overlying it with the ancient buildings.

The lighting of signage impacts on visibility. Due to the strong sun light in Jeddah, Al-Balad’s signs are well lit in the daytime. In the nighttime lighting becomes more of a problem in some examples (shown in Figure 13), and there needs to be directed lighting towards all signs such as entry points, intersections, and decision points to ensure that visitors can easily find their way in Al-Balad. This is to enhance the visibility and aesthetic appeal of wayfinding systems at night. Using soft, warm lighting can highlight signage without overpowering the historical ambiance. Also, ensuring consistency in lighting is recommended. Figure 12, for example, shows signage well-lit by streetlights, in contrast to Figure 13.

Additionally, at present in Al-Balad, the spatial positioning of signs is inconsistent. Signs are sometimes grouped in columns and sometimes alone on walls; height varies. Basri and Sulaiman (2013) emphasized the close relationship between sign height and eye level height which has an influence on the level of easy-reading height. Moreover, according to Norrblom (2023) the impact of signage must not be diluted by the present of many signs next to each other which will create ‘visual noise’. There also different colors that can distract people and be unnoticed. It is important to position signs at eye level where they are most likely to be seen and read easily by pedestrians.



Figure 11: A small panel on a wall of one of the houses in Al-Balad.



Figure 12: High directional panels on top of each other in Al-Balad.



Figure 13: Signs with low visibility in nighttime and in a high position.



Figure 14: One of the inactive digital displays.

- 5-8 Tolerance:

Accessibility for visitors with disabilities is currently underdeveloped in Al-Balad. For instance, Braille is not incorporated into the signage systems for visually impaired visitors, nor is there a visitor centre where can access support. For those with mobility issues, there are few signs indicating wheelchair ramps or lifts. This limited signage could be a result of the current restoration and modification construction work in the area, although the extent to which the construction work will result in increased accessibility in the built environment is unclear. On the other hand, signs for disabled individuals can be seen in the parking areas, where visitors can use golf

buggies to move around the site without walking.

For a clean environment for the benefit of all visitors, special small vehicles were designed with the one of the colours of Al-Balad branding that also can reflect nature and growth. The size of waste cars is small to reduce the risk of damaging of the historical structures and it suit the small pathways of the area.

Human visitors to the site co-exist with other creatures. Al-Balad is not only known for its rich cultural heritage and traditional architecture but also for its street cats. These cats have become an integral part of the area's landscape, and their presence is both a charm and a challenge for residents and visitors. The Saudi Ministry of Culture and Historical Jeddah project collaborated to build feeding stations for cats, designed to be both hygienic and safe. This helps manage feeding times and locations, reducing conflicts with residents and businesses especially in high temperature periods where many cats might pass away because of dehydration. The design of the feeding stations for cats incorporates the same materials used on the site, such as wood in 'Roshan', thereby continuing the site's original spirit and character.



Figure 15: A waste collection vehicle showing Al-Balad branding.



Figure 16: One of the cats feeding stations using materials from Al-Balad architecture.

- 5-9 Adaptability:

In the case of Al-Balad, using materials that reflect the traditional building methods of Al-Balad, such as coral stone, wood, and plaster, helps create a cohesive look. Textures should mimic those found in the historical structures to blend seamlessly with the surroundings. As this area hosts many seasonal events and markets which alter the landscape and flow of the area, there are many temporary digital and non-digital displays that are usually closed and open only for specific occasions. These

banners are movable and easily repositioned. There is therefore the potential to use these more effectively, updating these instructions to guide visitors with more information when they are not in use for special events.



Figure 17: A collection of unused backlit poster displays.

6- Discussion

Four themes emerge from the findings, which are linked to the requirements put forward by Zubaydullayev (2023).

1. Aesthetics and Consistency

The aesthetics of navigation signage systems play a crucial role in ensuring that the visual elements blend seamlessly into the landscape and the objects where they will be used. This is particularly important because it involves designing signs that are not only functional but also visually pleasing and harmonious with their surroundings, which can evoke memories for visitors (Siyabolola et al., 2023). As with all historic tourist sites, visitors to Al-Balad seek to gain knowledge and information and have an unforgettable experience. A key element of such a memorable experience is being in an aesthetically pleasing environment.

The visual identity of Al-Balad, created by 'Twothird,' is particularly strong. The color scheme used reflects the urban landscape of the historical city, carefully considering the visual contrast necessary for the signage identity (Bomfim and Cruz, 2023). This consideration of the specific aesthetics of the area extends beyond colour. Al-Balad is home to many valuable buildings, and the signage system here often involves the use of traditional materials like wood and stone, which resonate with the historical context.

However, the ongoing development and restoration in Al-Balad have caused inconsistencies in the wayfinding system. There are many old banners and boards in various shades of brown, differing in size and font, as seen in Figure 3. Despite this, the beauty of the surrounding landscape in Al-Balad is still highlighted by boards containing graphics that consistently represent the site's characteristics and atmosphere. Moreover, many festivals in Al-Balad and Jeddah more widely are often promoted through design elements that remain even after the events, serving as a way to commemorate these activities in the city. Consideration should be given to methods for achieving this commemoration while minimising visual inconsistency, perhaps by creating a visual framework that all events-related material must conform to.

Overall, currently, the signage in Al-Balad generally complements the area, but there is room for improvement. Enhancing the visitor experience without distracting from the site's visual demands should be a priority moving forward.

2. Language

The language used in signage around Al-Balad relates to both the tolerance and informative requirements but forward by Zubaydullayev (2023). As previously noted, Al-Balad aims to attract visitors from a global

audience and thus it is important to consider Symonds' multi-lingual design advice (2023).

A notable linguistic issue in Al-Balad is that a minority of the signs only use one language (i.e. English or Arabic; Figure 3 bottom right image), in contrast to the bilingual logo and generally bilingual signage. Not only does this introduce visual inconsistency but it also may undermine the primary objective of providing clear, concise, and easily accessible information that facilitates seamless navigation that is highlighted by Wan et al. (2019).

More generally, it is worth considering whether bilingual signs are sufficient to guide the international visitors that Al-Balad aims to attract. While Arabic and English have strong coverage as either first or second languages (Statista, 2024), research into the nationalities and languages of the visitors to Al-Balad could be conducted to ascertain whether additional languages would benefit visitors, either on the physical signs or potentially within augmented reality (AR) apps accessed via QR codes.

3. Inclusivity and Accessibility

'Twothird' also paid attention to the facilities in Al-Balad by designing signage that guides tourists and informs them about different areas using culturally relevant icons and symbols. According to Bomfim and Cruz (2023), one of the important rules for general visual signage systems is to design recognizable symbols for a universal audience. There is a need for improvement in Al-Balad, because some symbols, such as those representing art and innovation (as shown in Figure 2), may not be universally understood unless the designer identifies them in more than one language. Despite this, generally, in Al-Balad signs use inclusive icons which are respectful of different cultures and nationalities.

However, the content of signs is inaccessible if they are not visible (Emmanuel, 2024), and the strategic position of signs is integral to this. Signage is recommended to be in central areas with high footfall such as the reception, cafeterias, and main corridors (Norrblom, 2023). One of the weaknesses in Al-Balad is the placement of some signage; for example, many are positioned in corners and well above eye level, as shown in Figure 13. This positioning of signs high above the ground is particularly problematic for signage aimed at those with mobility disabilities. Moreover, their signage boards usually are limited in number and small. A related issue related to the accessibility of Al-Balad is there are no consideration for the needs of visitors with visual impairments, both in the design of signage and the built environment (Inclusive Design Toolkit, 2017). The lighting and colour-contrast of signage is also relevant here: because of its daytime temperatures, many visit Al-Balad in the nighttime and so the designers at the site are encouraged to give further consideration to the lighting of signage and the use of high-contrast colours (while maintain the aesthetic coherence of the site).

4. Adaptability

There are multiple reasons the navigation of a site could change such as construction of ancient buildings, public health emergencies (exemplified by the Covid 19 pandemic) and temporary events that occur in the location. Such changes might disrupt the visitor experience, but designing a long-term system which can be adapted to respond to changes can limit negative impacts on visitors despite amendments to the environment (Osborn, 2022). In Al-Balad there are many temporary digital posters turned off which can be updated in a short period of time and located in a visible strategic place.

Maintenance is a critical aspect of adaptability. Signs should be created from

resilient, weather-resistant materials that require minimal care. This is especially important in outdoor or exposed environments where signs are subject to wear from the elements. Easy-to-clean surfaces and vandal-resistant features can also prolong the lifespan of the signage boards and reduce conservation costs. Furthermore, using sustainable materials and ecological manufacturing can contribute to the overall adaptability by aligning with modern environmental standards.

Adaptability in Al-Balad is not shown as on some signage boards the background and text colour have faded because of the exposure to sunlight and heat, thus reducing the accessibility of the information presented. Moreover, many digital boards were switched off on the researcher's visit and placed in the corners rather than using them in directing information. This might be because of the unfinished work in improving and renovating Al-Balad, but the potential of these digital boards remains untapped.

7- IMPLICATION TO RESEARCH AND PRACTICE

By integrating these fundamental requirements, historical sites can develop navigation signage systems that are not only functional but also respectful of their unique heritage. This approach ensures that visitors can navigate the site with ease, enhancing their overall experience while preserving the site's historical and aesthetic integrity. Fundamentally, as Saudi Arabia increasingly opens its doors to the world, Al-Balad, is witnessing an influx of tourists eager to explore its rich cultural heritage and architectural marvels. This surge in visitors underscores the importance of adhering to the branding guidelines of Al-Balad and unifying wayfinding signs across the district. By ensuring consistency in design, colour schemes, fonts, and materials, Al-Balad can

present a cohesive, aesthetically-pleasing and accessible environment that enhances the visitor experience. Unified signage not only facilitates navigation but also reinforces the district's unique identity and heritage. As Al-Balad continues to attract global attention, maintaining this visual harmony is essential for preserving its historical charm and ensuring that every visitor leaves with an unforgettable experience. Through thoughtful and consistent wayfinding design, Al-Balad can seamlessly blend modern accessibility with its timeless cultural legacy.

8- Conclusion:

In summary, the fundamental requirements for an effective navigation signage system in historical areas encompass consistency of visual elements, aesthetics, informative design, visibility, tolerance, and adaptability. Each of these components plays a critical role in enhancing the visitor experience while respecting and preserving the historical and cultural integrity of the site. Consistency of visual elements in Al-Balad would ensure a cohesive and seamless experience for visitors, enabling them to easily recognize and interpret information without confusion. This uniformity also contributes to a professional and organized appearance, which reflects positive on-site management. Moreover, aesthetics is crucial for creating signage that harmonizes with the historical and architectural context of the area. By using materials, colours, and design styles that complement the site's heritage, signage can enhance the visual appeal without detracting from the historical ambiance.

Additionally, informative design provides clear and accessible information that aids navigation and enhances the visitor experience in Al-Balad. This involves strategic placement of signs, use of historically appropriate materials and fonts, and features that cater to all visitors, including

those with disabilities. Also, visibility ensures that signs are easily recognizable and readable under various conditions and from different vantage points. This includes using universal symbols, resilient materials, and appropriate lighting to maintain clarity in diverse environments. Furthermore, tolerance addresses the diverse backgrounds and needs of visitors by using universally recognized symbols and inclusive design elements. This ensures that the signage is respectful and accessible to individuals of various nationalities, religious denominations, and abilities. Finally, Adaptability allows for flexible and efficient management of the signage system, enabling quick updates and maintenance with minimal disruption. This is particularly valuable in historical sites where visitor needs, and environmental conditions may change over time.

Related to these fundamental requirements are areas in which Al-Balad's wayfinding experience could be enhanced: aesthetics and consistency, language, visibility and adaptability.

9- Recommendations:

Based on the themes identified, in terms of aesthetics and consistency, future studies could investigate the requirements for a visual framework for all events-related material in Al-Balad. On language, studies could analyse the linguistic requirements of Al-Balad's international visitors, to judge whether additional languages are needed in either the physical signage or through digital technology. More detailed examination of the inclusivity of the both the visual design of the wayfinding system and the design of the built environment are other potential avenues for research. Finally, in relation to adaptability, researchers could explore the most effective and sustainable ways to maintain the wayfinding system in the conditions of Al-

Balad and look for case studies on how to maximize digital posters.

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