

## PalArch's Journal of Archaeology of Egypt / Egyptology

### THE INFLUENCE OF THE COVID -19 PANDEMIC ON THE DESIGN OF HOLIDAY RESORTS: A CASE STUDY ANALYSIS OF RESORTS IN THE KINGDOM OF BAHRAIN

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**Aseel Abdulsalam Al-Ayash, Maryam Al-Salloom. The Influence of The Covid -19  
Pandemic on The Design of Holiday Resorts: A Case Study Analysis of Resorts in The  
Kingdom of Bahrain -- Palarch's Journal of Archaeology of Egypt/Egyptology 19(1),  
2067-2078. ISSN 1567-214x**

**Keyword: Resorts Building, Pandemic, Healthy Environment, Tourism, Sustainability**

#### **ABSTRACT**

A resort is a destination designed to fulfil the needs of holiday makers within a single location. However, all resorts, including those in Bahrain, have been impacted by the current Covid-19 pandemic. This research focuses on the development of new and innovative design guidelines to for resorts in Bahrain, focused on creating a healthy and sustainable environment. This includes firstly, creating and aesthetically pleasing and safe interior; secondly, promoting an experience of happiness, comfort and well-being; and thirdly, providing a high level of comfort. This study used the mixed method approach, employing both quantitative and qualitative methods for data collection and analysis, i.e. a survey based on a questionnaire as a quantitative method and interviews as a qualitative method. The results reveal that a large number of travelers visited resorts during the pandemic, which resulting in improvements to their mental health. The researcher therefore proposes solutions to enhance the experience of future visitors to these resorts.

#### **INTRODUCTION**

Tourism is currently one of the most important sources of income for the Kingdom of Bahrain (Karolak, 2014), which is a significant tourist destination, particularly in summer, due to the beauty of its natural environment. This has led to the development of a large number of coastal resorts, which each year attract a large number of visitors (Alsamawi, 2017).

However, the Covid-19 pandemic has had a negative impact on many economic sectors in the Kingdom of Bahrain, including tourism, particularly as the latter depends on visitors arriving from both Gulf countries and further afield (Niavis, Kallioras, Vlontzos, and Duquenne, 2021). With many staying at home during the pandemic, there has been a reduction in the revenue of these resorts. Furthermore, many tourists stayed away even after they reopened, due to a fear of infection. This study examines the issues concerning the design of buildings in these resorts, including the need to reassure holiday makers and so encourage them to return. The research questions are as follows:

1. To what extent has the design of buildings in resorts in the Kingdom of Bahrain been influenced by the Covid-19 pandemic?
2. What are the new design guidelines for such buildings, in order to create innovative solutions in Bahrain during the pandemic?

### **RESEARCH AIMS**

This study considers that the pandemic represents an opportunity to recognize the wealth brought into the country by tourism and encourage investment in this sector. This will promote the Kingdom of Bahrain as a regional and international center for tourism, focusing on the aims of economic vision 2030, in particular through the development of an integrated government vision for society and the economy.

The aims for this research are to:

Firstly, examine the impact of the Covid-19 pandemic on the design of tourist resorts.

Secondly, establish new design guidelines for such resorts design during the period of a pandemic.

### **LITERATURE REVIEW**

#### ***Resorts Design and Human Wellness***

Hanjayani and Nelson (2020) defined holiday resorts as places for recreational activities used by tourists for leisure activities, including sport, as well as enjoying the surrounding natural beauty which can improve health and fitness. In addition, Yusoff, (2010) noted that resort buildings are generally designed for commercial purposes, rather than for aesthetic or cultural benefits.

Garofalo (2020) highlighted the ability of interior designers to create a positive indoor environment to make it more habitable and resilient and accommodate contemporary requirements. The interior design of resorts focuses on creating an enjoyable and safe environment, capable of enhancing feelings of happiness, comfort and health. This includes the use of colors, variations of shapes, decoration and lighting (Lehto, 2019) to ensure satisfactory levels of comfort. Tolu (2021) stated that, as the Covid-19 pandemic has made social communication more difficult, the most valuable aspect of any space has become the connection between indoor and outdoor public places to ensure both fresh air and natural daylight. The literature has established that the direct

inclusion of natural elements in the environment has a significant impact on human health and comfort. This is important for resorts, as its application ensures a relaxed environment to support the health and comfort of customers (Fitri, Rachmawati, and Haristianti, 2020).

### *Social Distancing in Space Planning/ Flexible Outdoor Spaces*

There are a number of benefits in ensuring accommodation and recreation can take place in one location, such as adding balconies or a terrace to rooms to give guests a view of the natural world and a sense of connection while they are forced to reduce their interactions with others. In addition, using creative methods of moving meeting areas outdoors can allow visitors to enjoy the weather and help them feel safe (Lebreck, 2021).

Flexibility and adaptability are important considerations when it comes to resort design, along with large outdoor gathering spaces (Zahrah, 2019). A considerable number of studies demonstrate that interior designers have increasingly employed a connection to nature, using living plants, green walls, skylights and open niches, to exert a positive influence on indoor spaces (Mcgee, Park, Portillo, Bosch and Swisher, 2019). Furthermore, studies have indicated that ensuring the exterior and interior design are compatible helps to promote a highly positive experience, i.e. the development of a secluded area or, or one with spectacular views, or gazebos placed among trees to improve the visitor's experience and create a comfortable space (El-Ghobashy and Mosaad, 2016).

### *Smart Materials and Technology*

Interior designers are now moving towards the use of sustainable design, by achieving integration and harmony between indoor and exterior spaces and the environment. In addition, designers also rely on the use of environmentally friendly methods, including recycled materials, as well as extending the productive life of the final product to reduce its environmental impact (Ramadan and Halaby, 2020). Furthermore, Querido, Aguiar, Neves and Pereira (2019) identified the potential to use antibacterial materials to avoid the spread of the virus, as well as employing surfaces that are easy to clean.

A further means of reducing fear of infection can be the incorporation of smart technologies into the guest experience, as well as allowing constant communication. This is where architecture and interior design can play an important role in building healthy environments, so ensuring resorts are more resistant to disease (Leung, 2019). In addition, the placing of technology in rooms can include screens that both allow guests to select a natural scene (i.e. a waterfall, forest, or beach) to serve as a digital window to nature and secondly, permit attendance at large conferences without fear of infection (Leko, 2021). Moreover, areas that are frequently touched (i.e. door handles, elevators, buttons, toilets, and light switches) can be replaced with a sensor or gesture-operated technology. This can be enhanced by the use of facial recognition devices, making doors and elevators automatic, placing sensors for lighting, and using verbal commands to control air conditioning and turning on the television, etc. (Chen, 2021).

## METHODOLOGY

In order to investigate the impact of Covid-19 pandemic on the design of resort buildings, this research adapted mixed methods (i.e. quantitative and qualitative) to collect and analyze the data. Most studies use mixed methods to increase the accuracy of research, including for data collection and the analysis and interpretation of evidence (Efron and Ravid, 2013). Furthermore, mixed methods are suitable for addressing research questions that quantitative or qualitative methods alone cannot answer (Shorten and Smith, 2017).

### *Quantitative and Qualitative Methods*

This study employed a survey based on a questionnaire as its quantitative method and interviews as its qualitative method. The questionnaire was administered online to participants who regularly visited holiday resorts and consisted of fifteen open-ended questions, including those concerning: (1) demographics; (2) cleanliness; (3) environmental sustainability; (4) design; (5) facilities; and (6) use of technology. This survey was distributed to participants from various backgrounds to in order to obtain a wide range of experience and knowledge.

In addition, the qualitative method used interviews conducted with employees of resorts in Bahrain, with the aim of collecting data concerning the period of the Covid -19 pandemic. The interviews consisted of five questions, which aimed to establish: (1) the number of visitors during the Covid-19 pandemic; (2) the procedures used to create safe environment; and (3) the challenges arising due to the pandemic. The study focused on three resorts. The first was Lagoon Beach (5 stars), which is located in Budaiya, being described as a Sea Front Paradise featuring private beaches and private island beaches, as well as Jacuzzis and indoor and outdoor swimming pools for both adults and children. The second resort was Jaw Resort and Spa (4 stars), located in Hawar Hwy, which includes various facilities, i.e. spa and fitness rooms and activities for children. The third resort is Al Bander Resort (4 stars), located in Sitra, which states that it has a high standard of comfort, and design, with tropical gardens and views of the sea, along with forty-four chalets and thirty-six cabanas.

The researcher selected various levels of resort, and from different regions in Bahrain, in order to establish whether there is a preference for resorts located in the capital or at a considerable distance, as well as to investigate the difference between the resorts.

### *Participants*

This research focused on a total of 150 participants, including men and women from a variety of backgrounds. In addition, the interviews were conducted with employees working in management in each of the three resorts.

## RESULTS

This section discusses the analysis and interpretation of the data from the questionnaire and interviews. The interviews were transcribed, being subsequently reviewed and broken down in to phrases and sentences

representing the participants' main ideas and experiences. The responses were then highlighted and coded, with the codes grouped into themes.

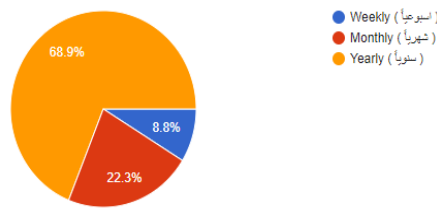
### *Results of Survey*

The questionnaire concerning the design of resorts was given to 150 respondents from various backgrounds, in order to establish the following criteria: occupation, age, and experience. This established that 121 were female and twenty-nine were male. The majority (55.3%) were aged between eighteen and twenty-five, 32% were aged between twenty-six and forty-five and 12.7% were over forty-five. Most (38.3%), were university students, with 35.6% holding a bachelor's degree, 20.1% having graduated from school, 3.4% a PhD degree and 2.7% a master's degree. An overview of the question responses is given in Table 1.

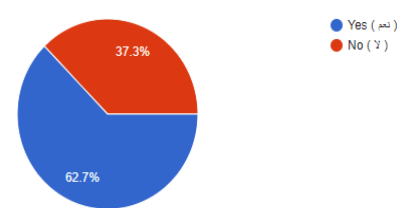
**Table 1:** Demographic Data Result

Gender	Total No of respondents	% As total responses No
Male	29	19.3%
Female	121	80.7%
Total	150	100%
Age	Total No of respondents	% As total responses No
18 - 25	83	55.3%
26 - 45	48	32%
Above 45	19	12.7%
Total	150	100%
Educational Level	Total No of respondents	% As total responses No
Schools	30	20.1%
University Students	57	38.3%
Bachelor	53	35.6%
Master	5	2.7%
PhD	5	3.3%
Total	150	100%

The results of the questionnaire found that 68.9% of the respondents visited resorts every year, with 22.3% visiting every month and 8.8% visiting every week. In addition, 62.7% confirmed that they had been to a resort during the pandemic, while 37.3% had not visited, due to fear of catching Covid-19, and viewing the resorts a unsafe safe in terms of hygiene and feeling they were too crowded (see Fig. 1 and Fig. 2).



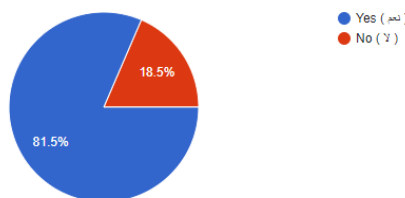
**Fig. 1:** Number of visiting resorts



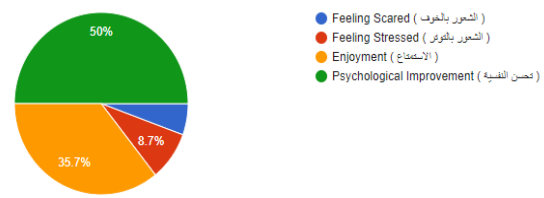
**Fig. 2:** Number visiting during Covid-19

Of the participants who had visited a resort, 81.5% found the environment safe and hygienic, with 18.5% identifying a lack of precautionary measures, i.e. enforcing of social distancing and the use of masks, as well as a lack of convenience and comfort (see Fig. 3). These findings support previous studies in terms of health and wellness, highlighting the need to create healthy environments to protect visitors, while at the same time allowing them to relax by focusing on enjoying the natural world by ensuring a link between interior and outdoor spaces (Tolu, 2021).

The participants were questioned about their feelings when visiting a resort, with the results showing that the majority (85%) felt positive in terms of improvement to their mental health, while the environment also increased their level of enjoyment (Fig. 4). The majority of participants (about 93%) did not regret going to a resort, with only 7% expressing reservations due to the lack of sufficient precautions. In addition, the results indicated that 70.5% would repeat the experience and be willing to go again during the pandemic, while 29.5% stated they would not go again.



**Fig. 3:** Resort environment



**Fig. 4:** The psychological reactions of visitors

When it came to the interior design, 69.4% confirmed taking into account the design, cleanliness, conditions of rooms and ability to social distance, 34.7% indicated the importance of cleanliness, 26.5% confirmed the need for social distancing, while 13.6% confirmed the importance of the condition of rooms and 10.9% the design. The participants were also asked about services or facilities they would like to find in a resort, with the answers divided into the following nine categories: (1) privacy; (2) healthcare; (3) entertainment; (4)

design; (5) psychology; (6) services; (7) hygiene; (8) technology; and (9) security (see Table 2). According to Leung (2019), smart technology plays an important role in interior spaces and can increase the level of health protection in resorts, through the use of antibacterial materials and smart devices.

**Table 2:** Facilities Suggested for Resorts by Participants

Categories	Services/ Facilities
Privacy	Private Pool Private cabins Private Area
HealthCare	Healthcare Center Free PCR Test Rooms for isolation and examination Medical box Healthcare Facilities
Entertainment	Massage, Hair treatments and facial Jacuzzi Bicycles Water Games, Video Games Restaurants & Supermarkets Salon Cinema
Design	Innovative design
Emotional and Physiological support	Relaxing Calm / Response Speed
Services	Rest Room Wi-Fi
Hygiene and Cleanliness	Daily Cleaning Service
Technology	Smart Technology: Touch Public Restroom Automatic Door Lock
Security	Security Cameras

Furthermore, most participants (80%) considered smart technology to be a beneficial aspect of a resort’s design in relation to: (1) lifestyle; (2) communication; (3) sustainability; (4) time; and (5) social distancing (see Table 3). Although it should be noted that 20% did not consider the use of smart technology to be significant.

**Table 3:** Themes Extracted from the Transcriptions of interviews

Theme	Transcription
Lifestyle	Make life easier For relaxation and overall experience To maintain high quality For enjoyment To provide comfort Facilitating accommodation Reflect on person psychological comfort

Communication	Incorporating technology can be an integral part of the resort experience It is easy to see the design before it is implemented in reality To attract customers To expedite the provision of services to customers Make engineers' work easier Facilitate the process of communication Further accessibility
Sustainability	Ensure a sustainable environment Reduce the number of controls in need of physical contact
Time	Less time and effort
Social Distancing	To reduce the number of employees and the need for social mixing

Moreover, 29.5% stated they wished for a modern style of resort, and 28.8% wished for one that was fashionable, while 24.7% wished for a classic style and 17.1% one that was contemporary.

### ***Results of Interview***

The interviews aimed to establish the impact of the Covid-19 pandemic on the design and procedures of holiday resorts, in particular the creation of a healthy environment. The interviews with staff from all three resorts indicated that, at the start of the pandemic, fear of infection had meant they had only a small number of visitors, but this subsequently increased, due to the absence of alternative leisure facilities for those living in Bahrain, combined with the inability to travel abroad. Once travel restrictions were lifted, visitors also included holidaymakers from outside Bahrain. The interviewees stated that the lack of clients during the pandemic had caused an economic crisis for the resorts, while they found that some visitors showed little commitment to adhering to precautionary procedures, i.e. social distancing and wearing masks. When the interviewees were questioned about the precautionary procedures taken by the management of each resort to create safe environment, they stated that: firstly, the guest rooms and public spaces were continuously sterilized; secondly, provision was made for social distancing; and thirdly, masks were provided. The staff confirmed that they used safe and effective sterilization designed to prevent damage to furniture and other materials, but that no adjustment was made to the design of guest rooms and other spaces, which retained their previous layout and furniture distribution.

### **DISCUSSION**

The goal of the present research was to investigate the impact of the Covid-19 pandemic on the design of holiday resorts in Bahrain and draw up guidelines to combat the danger of infection. The results of questionnaire revealed that most of the respondents visited resorts regularly during normal times but had found these spaces locked down during the pandemic, particularly in tourist areas. However, the respondents stated that they returned to these resorts after they



reopened and strict precautionary measures had been put in place. Although most indicated that they felt safe and positive during their stay, they observed that little adjustment had been made to the design of both indoor and outdoor spaces to adjust to the pandemic. These results agreed with the results of the interviews with staff from these resorts.

This study demonstrates the importance of interior design for resorts to enable them to create an enjoyable, aesthetically pleasing and safe environment. This is supported by the findings of Lehto (2019) that interior design can increase feeling of happiness, comfort and health, including through the use of colors, and variations of shapes, decoration and lighting. Since the onset of the pandemic, one of the most important aspects has been the need for high levels of cleanliness and hygiene, in order to reassure customers (Noor, Omar and Mahphoth, 2011).

The results also indicate that smart technology now plays an important role in the design of resorts, as it can facilitate communication and reduce the number of employees, while at the same time promote social distancing using creative design and advanced devices. This is supported by the findings in the literature that smart technology can overcome fear of infection, as well as help maintain constant communication with guests, while the fields of architecture and interior design play an important role in building healthy environments and making resorts more resistant to disease (Leung, 2019).

## **CONCLUSION**

This study has found that, although most resorts took precautionary measures during the pandemic, there is little evidence of innovative design in response to the crisis. It has also highlighted the need to promote designs that provide protection and reassurance for visitors, without having to make permanent use of social distancing and the wearing of masks. This can include changing the layout or the distribution and design of furniture, including adding balconies or terraces to give guests additional views and a feeling of being connected to nature, while reducing their close interaction with others. Several previous studies have also show that interior design can increase a connection to nature through the use of plants and skylights or placing gazebos in the external space. This study considers it important to use environmentally friendly and recycled materials, as well as working to extend the useful life of the final product and so reduce its environmental impact. The interviews with staff also highlighted the use of easy-to-clean surfaces and anti-bacterial products to avoid the spread of the virus. Furthermore, this study found that the incorporation of smart technologies can help address the concerns of guests, reducing their fear of infection, as well as maintaining constant communication between management, staff and guests.

## **RECOMMENDATIONS**

The study proposes guidelines for the future design of resorts, in order to ensure that they can be safely used, even during a similar crisis, by addressing the lack of innovative solutions undertaken during the current pandemic.

Firstly, the researcher suggests the creation of an online application to reduce face-to face communication, and enable visitors to remotely select the type of accommodation and facilities they require.

Secondly, existing buildings need to be modified to operate safely during a pandemic, i.e., putting in place facilities for social distancing.

This includes:

1. Planning: Enabling spaces to expand and contract as needed and rethinking the direction of traffic.
2. The use of non-structural partitions: Employing transparent glass panels in rest areas, and the development of outdoor spaces where visitors can obtain peace of mind, and experience calm and relaxation.
3. Finishes and furnishings: Firstly, using adaptable furniture that is easy to move, reconfigure and sterilize, in order to provide flexibility to floor plans. Secondly, choosing materials that are easy to sterilize and antimicrobial, including viscose and wool for curtains and upholstered furniture, as these inhibit the growth of bacteria, fungi and viruses, in addition to engineered quartz, copper, ceramic, porcelain, bamboo and cork.
4. Signage: Digital or colored signs can be employed to reassure visitors by giving them accurate and accessible information throughout their stay. In addition, a virtual concierge board can be placed equipped with all the necessary instructions, including maps, meeting places and times and amenities.
5. The use of colors and shapes: Firstly, prorating colors that instill a sense of peace and comfort to promote calm and reflect the current emphasis on both mental and physical health. Secondly, employing shapes that simulate the natural world.
6. The use of non-touch technology and the development of an advanced mechanical system for the building. This can include motion sensors, as well as facial recognition, to control doors and elevators, and audio and video systems controlled through a smartphone or digital management.
7. Increase the use of outdoor spaces: This can assist in keeping visitors from contracting an infection due to air flow ensuring they are safer than when in indoor environments.

## REFERENCES

- Chen, Y. A, and Chen, C.L. (2021). Case study of sustainable service design in the hospitality industry. 16(1), 162-196. DOI:10.1108/CMS-08-2020-0320.
- Efron, S. E, and Ravid, R. (2013). *Action Research in Education*. New York: Guilford Publications
- El-Ghobashy. M., and Mosaad. G. (2016). Nature Influences on Architecture Interior Designs. DOI:10.1016/j.proenv.2016.04.050.
- Fitri, A. A., Rachmawati, R., and Harisianty, V. (2020). Nature in Space as Interior Concept for Resort Hotel in West Bandung. *Journal of Architectural Research and Design Studies*, 4(2), 60-66. DOI: 10.20885/jars.vol4.iss2.art8.
- Garofalo, J. A. (2020). *How Can Architecture Make Communities and Urban Environments More Resilient to Disease?* [Master Thesis, Naval

- Postgraduate School]. NPS Archive: Calhoun.  
<http://hdl.handle.net/10945/66075>.
- Hanjayani, M., and Nelson, M. (2020). Siahaan1 Hatinggian Eco-Park Hotel Resort (Ecological Architecture). *International Journal of Architecture and Urbanism*, 4(3), 291-299. DOI: 10.32734/ijau.v4i3.5041.
- LeBreck, D. (2021). *How Large Resorts Are Set Up for Social Distancing Success*. <https://meetingstoday.com/articles/142554/large-resorts-social-distancing-success>.
- Lehto, Y. X, and Letho, M. R. (2019). Vacation as a Public Health Resource: Toward a Wellness-Centered Tourism Design Approach. *Journal of Hospitality and Tourism Research*, 43(1). DOI:10.1177/1096348019849684.
- Leko.E.J. (2021). Travelers' Perception of SMART Technologies in Hotel Industry. [Undergraduate Thesis, / RIT Croatia]. <https://zir.nsk.hr/islandora/object/acmt%3A156/datastream/PDF/view>
- Lehto, Y. X, & Letho, M. R. (2019). Vacation as a Public Health Resource: Toward a Wellness-Centered Tourism Design Approach. *Journal of Hospitality and Tourism Research*, 43(1). DOI:10.1177/1096348019849684.
- Leung, R. (2019). Smart hospitality: Taiwan hotel stakeholder perspectives. *Tourism Review*, 74(1),50-62. DOI:10.1108/TR-09-2017-0149.
- Karolak, M. (2014). Tourism In Bahrain: Challenges and Opportunities of Economic Diversification. *Journal of Tourism Challenges and Trends*, 7(2): 27-46.
- Mcgee, B., Park, N.K., Portillo, M., Bosch, S., and Swisher, M. (2019). Diy Biophilia: Development of the Biophilic Interior Design Matrix as a Design Tool. *Journal of Interior Design*, 44(3). DOI:10.1111/joid.12159.
- Alsamawi, H. (2017). Responsible Tourism in Bahrain. *International Journal of Heritage, Tourism and Hospitality*, 11(3), 38-49. DOI:10.21608/ijth.2017.30220.
- Niavis, S., Kallioras, D., Vlontzos, G., & Duquenne, M. N. (2021). COVID-19 Pandemic and Lockdown Fine Optimality. *Economies Journal*. 9(36), 1-26.
- Noor, N.H, Omar, S. N., Mahphoth, M. H. (2011). Customer Satisfaction on Servicescape Towards Re-Patronage Intention: A Study of Hotels and Resorts in Ayer Keroh Melaka. [Research Reports] <https://ir.uitm.edu.my/id/eprint/42643>.
- Querido, M. M., Aguiar. A., Neves. P., and Pereira. C. C. (2019). Self-Disinfecting Surfaces and Infection Control. *Colloids and Surfaces B: Biointerfaces*, 178: 8-21. DOI:10.1016/j.colsurfb.2019.02.009.
- Ramadan, M., and El-Halaby, M. (2020). Integrative Relationship Between Environmental Architecture and Interior Design Towards Sustainability. *International Journal of Architectural Engineering and Urban Research*, 3(2), 38-46. DOI: 10.21608/IJAEUR.2020.17988.
- Shorten. A., & Smith.J. (2017). Mixed Methods Research: Expanding The Evidence Base. *Evidence-Based Nursing*, 20(3). DOI: 10.1136/eb-2017-102699.
- Tolu, O.O. (2021). Therapeutic Architecture and Wellbeing of Users in The Design of A Wellness Center In Ibadan, Nigeria [Master Thesis,

- Covenant University].  
[http://eprints.covenantuniversity.edu.ng/15415/#.YeboQ\\_5BzIX](http://eprints.covenantuniversity.edu.ng/15415/#.YeboQ_5BzIX).
- Yusoff, S. R. (2010). The Role of Resort in Promoting Traditional Malay Architecture and Heritage Awareness Among Tourist In Malaysia. International Conference Artepolis. ITB Bandung.
- Zahrah, W., and Fransisca, J. (2019). Hotel Resort Approach to Cultural Value and The Principle of Local Architecture in Pangururan, Samosir. *International Journal of Architecture and Urbanism*, 3(2), 204-217. DOI: <https://doi.org/10.32734/ijau.v3i2.2206>.
- Yusoff, S. R. (2010). The Role of Resort in Promoting Traditional Malay Architecture and Heritage Awareness Among Tourist In Malaysia. International Conference Artepolis. ITB Bandung.