

The Integration Between Science and Religion Facing the New Normal Life

The Integration Between Islamic and Smart Building at Batu Agro- Creative Hub in the New Normal life

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ABSTRACT

During the current pandemic, the New Normal Life policy was created with live to form new habits. One of the New Normal Life policies is Physical Distancing, Hygiene, and Personal Protective Equipment. This paper explains how an architectural approach, namely Smart Building-integrated by Islamic values, can be applied to building design in the New Normal Life era. This study's method uses a qualitative descriptive approach to describe how the Smart building integration with the Islamic values can be applied (moral ethic, rejection of imitation, and ijtihad helpful). Some are resulting in innovation for implementing New Normal Life in public building designs, namely Batu Agro Creative-Hub. The system's result is found to create a different way of circulation in building, different orientations, flexible patterns in the public room, smart envelope and wall to make comfort and hygienic building with smart in material, and zoning spare from other users.

Keywords: *New Normal life, integrated Smart Building, Islamic values, Batu Agro Creative Hub*

1. INTRODUCTION

There is a process of creativity in architecture to produce designs that are beneficial to humanity's problems. The Values of creativity in the Al - Qur'an, namely: "Thus, Allah will explain to you His verses, so that you think" (QS. Al Baqarah [2]: 219)

The above verse explains that Islam, even in terms of creativity, includes space for its people to be creative with their mind and with their conscience (*Qalbu*) in solving life's problems. [1]

During the industrial revolution 4.0, various human life joints are dominated by advances in information technology. Internet, data, and artificial intelligence so that different designs that connect activities in one space have emerged (Hub). Batu City is a tourist city in East Java that is rapidly developing into the agro-based tourism industry center, requiring creative industry players in Batu Agro - Creative Hub, emphasizing the values of creativity and innovation.

One of the innovations in architecture is the smart building approach. The Smart Buildings are buildings with high-quality space that can actively stimulate users' welfare of life and culture [2]. During the Covid 19 pandemic, the smart building became one of the solutions in building design that took into account health and social aspects in applying New Normal Life, which is currently being emphasized by the government. The following is a study of building design literature until its consideration in the New Normal Life.

1.1. Agro Creative Hub Design Background

Batu Agro - Creative Hub is located in Punten Village Area 5 kilometers from Batu Tourism City. The area is an active, productive area of plantations in Junggo village and Giripurna village as a supplier of raw materials from the farm. It is on a tourist trail, a comfortable commercial zone to access natural and processed materials and tourism.

Batu Agro Creative Hub's design is based on three issues, first to facilitate and connect between creative industry players in one time and one space (Hub), second, to promote and initiate innovations and produce a creative and innovative atmosphere, facilitate with technology. So that Batu Tourism City can also increase regional revenue from the creative industries sector. [2]

1.2. Smart Building Architectural Approach - Smart Envelope

Marco Casini introduced the architectural approach of Smart Building that focuses on Smart Envelope that Smart Building is a building with high-quality space that can actively stimulate users in the welfare of life and culture and creativity. Smart Building aims to become an icon in the 21st century, capable of combining innovative design and technology solutions with high comfort, energy efficiency, and environmental resilience. One of the focus of implementing Smart Building is Smart Envelope with the following principles: [3]

1. Adapting to the environment
2. Efficient ventilation
3. Application of Alternative Energy
4. Dynamic and responsive facade
5. Integrated automation system
6. Reflects the local cultural context

The previous Batu Agro-Creative Hub design problems are the basis for using the Smart Envelope approach to realize this design. Where the Smart Envelope has the principle that it can adapt to the environment, has efficient ventilation, and the application of alternative energy that can help implement comfort in interacting so that it can create a comfortable facility (Hub). Smart Envelope also has the principle of reflecting cultural locality where these principles can design a creative infrastructure that can present the cultural richness of Batu City to create a creative and competitive atmosphere (Creative and Innovative).

1.3. creativity in the Islamic values

Following the discussion in the introduction, Islamic studies are based on QS. Al Baqarah [2]: 219), this creative space's design is expected to improve Islamic values through increased creativity, which continues to develop in the current era. Following the imagination that has been reviewed by scholars in terms of the Qur'an and hadiths [4].

- a) Useful products. The results of creativity should benefit Muslim societies and be helpful for the people in their lives. It must bring good to the community.
- b) Meet the ethical and moral system. Creativity in Islam is an honest voice. All innovative products must be based on ethical-moral in the Islamic system means that whatever is to be created has to be accepted ethically.

- c) The Ijtihad methodology. Ijtihad is an effort or earnest effort in finding a solution for something that is not explicitly mentioned in the Qur'an or Sunnah. Creativity is pursued through ijtihad.
- d) Imitation refusal. Imitation, the antithesis of creativity or an obstacle to creativity, is condemned in the Quran time and time again. Allah (SWT) mentions negative people who only imitate those before them in worshipping other than Him. [1]

1.4. New Normal Regulation

Nowadays, we are faced with world health problems, namely COVID-19 pandemic. The pandemic has spread in various parts of the world rapidly in a short period. The existence of this pandemic affects many social, business, economic, and public health activities. Governments in various countries have implemented the 'New Normal' program to raise the worst situation, especially in the country's economy. [5].

The public's emphasis is to change their lifestyle with new arrangements and adaptation of new habits in various activities to live productively and avoid and suppress the transmission of COVID-19. The following are ways of controlling the risk of transmission that can be applied in multiple activities in the community, [5]

1. Physical Distance
Regulate interactions between individuals with the physical distance between individuals and avoid the concentration of many individuals in one facility at one time
2. Hygiene
Strive for Personal Hygiene with sound breathing/air systems in the room. For example, using a mask and sneezing covering it with the elbow.
3. Cleaning
Strive to keep the surrounding environment clean in public facilities. For example, maintaining door handles, tables, and chairs clean.
4. Training and Communication
Strive for renewal system procedures in safe interactions between individuals in minimizing the spread of viruses
5. Personal Protective Equipment (PPE)
Using personal protective equipment between individuals in their activities
6. Response
It is a regulation from the government in dealing with people/individuals who have been affected by COVID-19

2. METHODS

This study uses a qualitative method by describing the Smart Envelope integration results and the Value of the sadness in the Batu Agro - Creative Hub design, which can be applied during the New Normal period.

2.1. Study of literature

The purpose of this literature study, we collect data on the fundamental issues of the problem in the Batu Agro - Creative Hub design object, with solving the problem through the Smart Envelope approach, which is integrated with the Islamic values of QS Al Baqarah (2: 219). Which later can be considered using regulations or design directions during the New Normal.

2.2. Description

The application of the Smart Envelope integration and Islamic Value in the building design has been explained beforehand to produce the design results described with descriptive text and infographics. Then we analyzed the results of the integration of the New Normal pattern regulation.

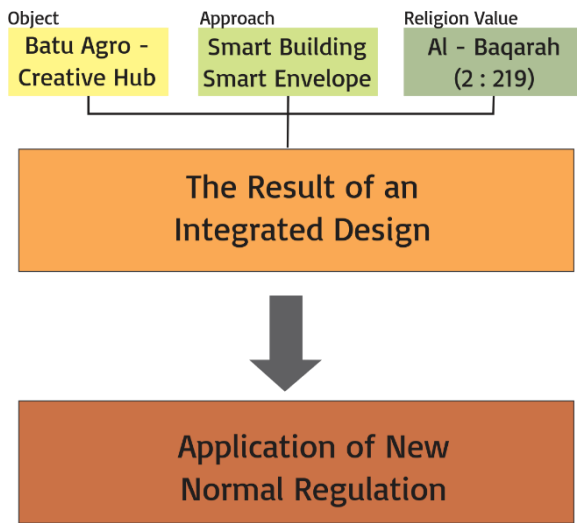


Figure 1. Step of the Methods [2]

3. DISCUSSION

3.1. Integration of Design Results

The results of the Smart Envelope integration and Islamic values of QS Al - Baqarah (2: 219) in the issue of the problem of the Batu Agro - Creative Hub object is a fundamental concept of design that is synthesized to produce integrated design principles as follows.

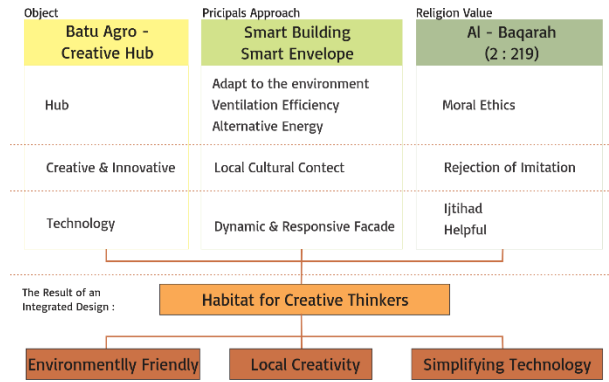


Figure 2. Integration Results [2]

3.1.1. Environmentally Friendly

Creating an environment that is in harmony with environmental activities and uses it wisely without damaging it (sensitive to the ground and utilizing energy sources)

3.1.2. Local Creativity

Adopting local values to generate new creativity that is a solution and different from others.

3.1.3. Simplifying Technology

Creating comfort and ease of interaction using the latest technology

3.2. New Normal Regulation Implementation

We already know how the integrated building design results from Smart Envelope and Islamic values of QS AL Baqarah (2: 219) solve building object problems from the previous discussion. Then the effects of the integration can be assessed to be applied to the New Normal period as follows,

3.2.1. Physical Distance

By applying local creativity, integration points to physical distancing in the design, creating a sizeable communal space to open or semi-open. The interaction between users is broader, and the air circulation is smoother to get out. And also set up one-way circulation to minimize the orientation of users facing each other.

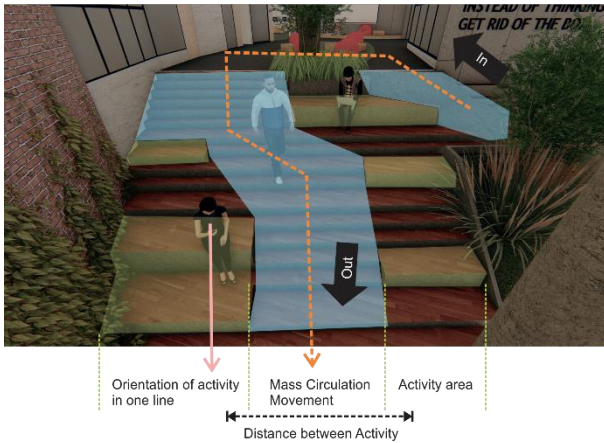


Figure 3. circulation in the communal space [2]

On the other hand, the collaborative space's furniture design is made not to face each other with the Shining Batu logo pattern adopted into a park bench design.



Figure 4. Furniture orientation [2]

The park bench design allows uninterrupted interaction between users with backward-facing directions and different seat height levels.

3.2.2. Hygiene

Hygienic room problems can be solved with integration points, namely sensitive to the environment where the building design uses a Smart Envelope, which seeks to change air circulation in the room to have clean air.

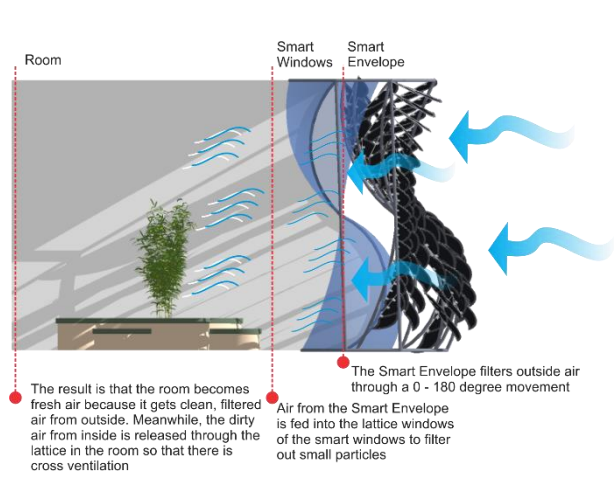


Figure 5. Smart Envelope in-room hygiene efforts [2]

Smart Envelope can automatically filter the air from its movement. The room does not have to use artificial cooling, which has a greater risk of spreading the virus because it must be closed in its use.

3.2.3. Cleaning

Creating a clean atmosphere is undoubtedly supported by user behavior patterns in the room in maintaining cleanliness. However, by applying technological convenience points, maintaining cleanliness in building designs will be more comfortable. Namely, using Smart Material "hydrophobic layer" on the partition of the window glass and door handles allows frequent contact with the user.

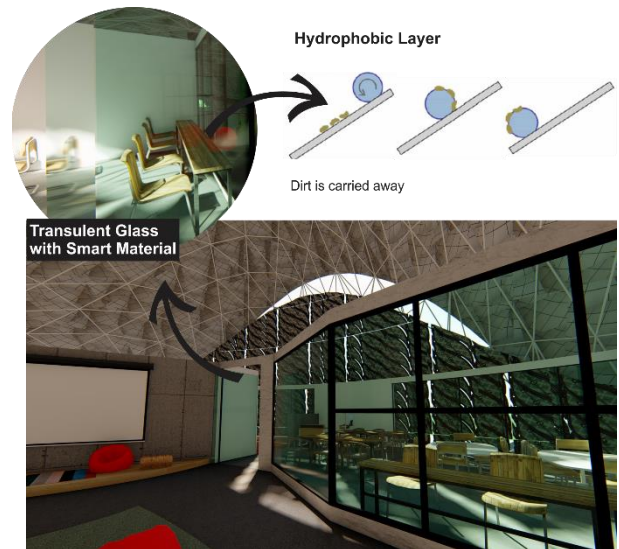


Figure 6. Smart Material [2]

The hydrophobic coating can clean itself with a drop of water. The layer seeks that the water droplets roll and roll up all the particles attached to the layer's plane. The presence of particles such as dust, bacteria, and viruses can come with the falling water makes it easy to maintain every room to be clean.

3.2.4. Training and Communication

During a pandemic, it won't be easy to interact with individuals. Therefore, the design applies technology to communicate between one activity and another. Namely using the network

which can be accessed from any room in the design area. Making it possible for users to interact without meeting each other face to face.



Figure 7. ICT device system flow [2]

On the other hand, plant cultivation activities in the garden area are also facilitated by applying technology, namely Information Communication and Technology (ICT), where cultivation activities can only be controlled from a computer device. One of the conveniences is that it can automatically water the garden plants evenly and precisely through sprinkle water connected to the ICT device according to the garden's needs. With this utility system, it can minimize the interaction of garden care with many interacting users.

3.2.5. Personal Protective Equipment (PPE)

Each user in the design is required to have an awareness of self-protection. Through the integration that has been described, local creativity points can be applied by adjusting the design's plan layout patterns, where the layout is arranged to limit the number of users in each room. And it has flexible partitions in determining interactions with many individuals in space. The following is applying a plan with flexible sections as a form of self-protection and preventing virus spread.

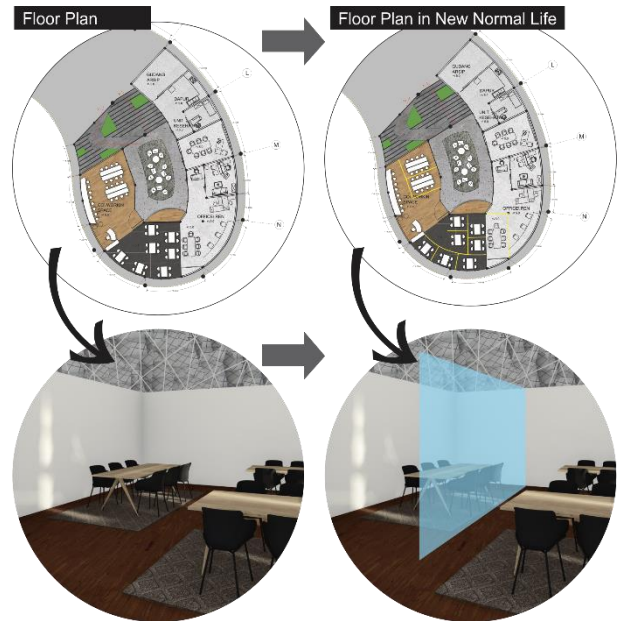


Figure 8. Flexible spatial arrangement pattern [2]

3.2.5. Response

The continuity of the New Normal period is also due to the policy system's role in the region. Therefore, the area has a circulation and access design that can reduce the spread of COVID-19

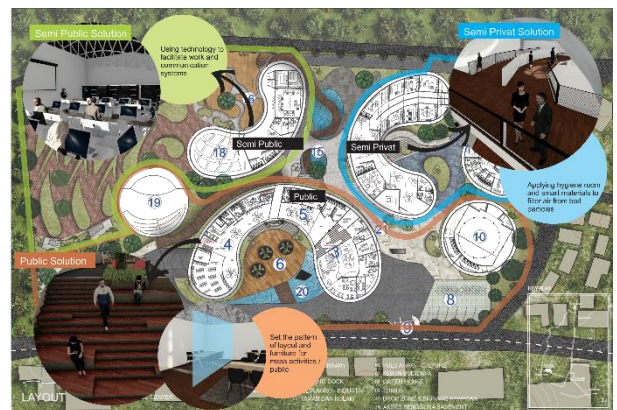


Figure 9. Inter-zonal regulations in the region [2]

In design, the area is divided into three zones based on the potential risk of the spread of COVID-19 as follows,

1) High-Risk Zone

The public space where dense user activity in the public space design is located at the Batu Agro Creative Hub Center. Where the activities in it are as a center for information, administration, and business to entertainment, which allows many contact interactions between individuals

Crowded activities in this zone cannot be avoided. The spread can be anticipated by implementing a broad and flexible spatial pattern, then designing communal benches spaced and implementing one-way circulation access to reduce the potential for contact between users.

2) Moderate Risk Zone

The semi-public space where there are routine activities, for example, in the design is Hulu Agro-Culture. There are plant cultivation activities with users who always have regular activities in cultivated plants' care.

The intensity of routine activities in this zone cannot be minimized. Therefore, this zone implements a policy of utilizing technology to communicate and maintain cultivation remotely through a technological system. So that it can reduce the potential for interaction between users

3) Low-Risk Zone

The semi-private space has activity with minimal interaction between users. However, specifically in the area located at Hilir Agro - Creative, it strives to create a healthy and clean room and is selective about visitors who will enter. Because in it there are activities for processing cultivation results in laboratories and machinery.

Therefore, this zone implements a room cleanliness control policy. It can be applied using Smart Envelope as a clean air filter from outside to inside so that the air in the room is always clean. It also regulates users' selectivity who will enter the room with the hygiene room before entering the area and has a particular observation deck area for visitors to not interfere with other intimate activities in it.

4. CONCLUSION

Integration of Smart Building - Smart Envelope with QS. Al Baqarah (2: 219) helped design the Batu Agro Creative Hub to support and accommodate user activities during the New Normal Life period. Make buildings sensitive to the surrounding environment with a Smart Envelope design that can filter outside air so that the room gets a clean and healthy atmosphere for the users inside is very necessary for a pandemic.

Exploring local creativity and using it can change user interaction patterns in designs. Namely, creating a comprehensive, flexible room layout and furniture orientation arrangement in the communal area during mass activities. So that it can reduce the risk of spreading COVID-19 because this pattern minimizes user interaction facing each other or making contact.

Technology is also applied to the design for ease of user activity, namely automation devices in plant cultivation maintenance in the system. To minimize the existence of dynamic work interactions in one place because remote technology devices have represented it.

On the other hand, using the latest technology can make the room more comfortable to control its cleanliness. Namely, building designs can use Smart materials as an alternative to choosing friendly materials in the New Normal Life era because Smart material strives for a self-cleaning feature that makes it easier to control a cleanroom.

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