

Suzanna Ratih Sari*,
Nindita Kresna Murti,
Muhammad Fariz Hilmy

Department of Engineering, Architecture Department, Diponegoro University, Indonesia

E-mail: ratihsaris@yahoo.com,
ninditakresnamurti@gmail.com,
farizhilmym@gmail.com

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*Corresponding author

Sustainability of traditional markets post-revitalization: a case study of Bulu and Peterongan markets in Semarang, Indonesia

Bulu and Peterongan are traditional markets with a history related to Semarang City, Indonesia. They have both been transformed into new markets with better and more complete buildings and facilities. It was conducted by the government to realize the people's market revitalization program and sustainable development goals (SDGs) because sustainability is very important for historical buildings. This however, has reduced their conservative buildings due to the reconstruction of the Bulu Market after a fire accident and almost 75% of the buildings in Peterongan Market. The development caused a reduction in the demand of traders to sell and customers to shop due to the discomfort provided by the post-revitalization buildings. Therefore, a qualitative method was applied in this study to explain the phenomenon and sustainability of the post-revitalization of these two markets, and the findings are expected to be used in forming the strategy to encourage the sustainability of these markets.

1. Introduction

Sustainability is a concept observed to be important to urban development as discussed at the UN Conference in Quito, Ecuador 2016 and added as one of the indicators of Sustainable Development Goals (SDGs) (Sutopo et al., 2014). The SDGs were designed as the new development agenda to accommodate all the changes experienced post-2015, especially regarding the world situation since 2000 on the issues of depletion of natural resources, environmental damages, climate change, social protection, food, energy, security, and development for the poor. It is, however, possible to develop a city through its traditional market by using revitalization programs which is a method proposed to preserve contemporary architecture's heritage to accommodate funding (Penica et al., 2015). The Government of Indonesia has implemented this program to revive traditional markets in the country but its implementation has not been effective as observed from the quietness and unsustainability of the revitalized markets.

The existence of traditional markets in Indonesia is based on local people's cultural heritage (Prastyawan et al., 2015) and they are usually visited by several people from different ethnicities, races, and characters, thereby, making the markets to be rich in culture. Some of the advantages of these traditional markets include cheaper and negotiable prices of quality goods than modern markets and this is the reason for their preference by customers. Meanwhile, their existence is being threatened by the emergence of modern markets such as supermarkets

and minimarkets which are growing significantly due to the influence of globalization, thereby, making competition with the traditional markets inevitable (Jeong and Ban, 2020; Prabowo et al., 2017). Several facilities of the traditional markets have also been reported to be incomplete and inadequate (Wibowo and Istiqomah, 2018) and this has led to the closure of some of them due to their inability to compete in the industry. Moreover, customers have been observed to be shifting to modern markets due to poor planning, uncomfortable access, overcrowded trading activities, lack of air circulation, and poor sanitation in traditional markets (Tanuwidjaja and Wirawan, 2015).

This means revitalization efforts are needed to sustain traditional markets (Sari et al., 2020) by repairing untreated buildings to make them tidier and cleaner but rebuilding instead of revitalizing tends to obscure the values and identity of these markets (Senasaputro, 2017). As previously stated, revitalization is a method proposed to preserve contemporary architectural heritage (Penica et al., 2015) to maintain the physical, social, cultural, and local identity aspects of the significant buildings (Kusrini and Kismanto, 2011). This is necessary due to the ability of globalization to affect the architectural form of buildings and sometimes eliminate their identity and local culture (Sudikno, 2017). Therefore, traditional markets are often renovated using the theme “revitalization” to make their building to be more well-groomed and tidier but the cultural values embedded for a long time are mostly ignored by the stakeholders involved in the development process, thereby, leading to the loss of these values, levelled to the ground, and covered with new materials.

Bulu and Peterongan markets in Semarang City, Indonesia showed in Figure 1 are two of the largest historic markets in the city. Meanwhile, history is no longer depicted in the Bulu Market due to its utter revitalization in 2012 which led to the replacement of the original building materials or structures with the latest designs and materials. The same was also observed in the Peterongan market but it maintains its original building and has not changed much of its spatial layout. It is important to note that revitalization efforts are usually implemented to revive the functionality and maintain the existence of the buildings in these markets (So-

Figure 1. Location of Bulu and Peterongan Markets in Semarang.



Source: Developed by the author, 2020.

ewarno et al., 2018) but it most times require demolishing old buildings to build new ones, as shown in Bulu Market and this means the market is no longer sustainable. The case is, however, different from the Peterongan Market which is fully sustainable. Moreover, the uncomprehensive revitalization standard is one factor causing all traditional markets to be unsuccessful after they have been revitalized (Anggraini et al., 2017).

Several studies have discussed the physical changes in post-revitalization of traditional markets with some focused on the revitalization methods to preserve historical landmarks, provide a new function, and adapt historic buildings to modern requirements (Penica et al., 2015). Another example is the revitalization of Indies building through the application of new functions (Wibisono et al., 2020) which increased the retail property value around the building (Jayantha and Yung, 2018). Some of the implications of these efforts is a change in tradition, market building structure, market patterns, a decrease in traders' profit, and loss of livelihoods (Aprilia, 2017; Gumilang et al., 2017). However, these studies only focus on the physical changes of a building. The discussion that was carried out did not extend to other aspects and also the sustainability of the market itself, remembering that the market buildings studied were historical buildings as well as Indies buildings.

Based on these several studies, researchers want to see not only the physical changes, but their impact on the sustainability of the market itself. The success of a building revitalization program is not only determined by how much physical changes are made, but whether the building is in accordance with the needs of its users. Besides, other non-physical aspects also need to be considered such as cultural values or local wisdom embedded in these buildings, because the principle of sustainability does not only pay attention to economic, social and environmental aspects, but cultural aspects are also included (Appendino, 2017). By examining case studies using these aspects, an optimal and sustainable revitalization strategy will be obtained. The outcome is expected to be used in increasing the sustainability of the post-revitalized Bulu and Peterongan Markets.

2. Methodology

A qualitative method was used in this study to determine the phenomena in the post-revitalization of Bulu and Peterongan markets after approximately 3-5 years of operation. These markets were selected as a case study because their revitalization programs are similar as observed in the complete revitalization of their historical buildings, non-functioning stalls, decreasing number of traders and customers, and several others. The factors causing the lack of customers in both markets were also explored due to the fact that they have never been without customers. Moreover, the two markets selected even though others have similar cases due to their influence on the people of Semarang up to the present moment.

Field observations were used to determine the current physical conditions using several variables designed to assess the physical aspects including the cons-

truction year, building area, building floors number, building materials used, part of the existing market, stall number, facilities, lighting systems, waste processing systems, and parking lots (Linggasani, 2015). Researchers will use these aspects to identify changes that occur in both markets before and after revitalization. The changes are usually seen in space capacity, so that building area, building floor number, stall number, dan parking lots will clearly have differences with the previous building. Besides, the two markets that are historical buildings will be examined whether there are preservation efforts, remembering that government regulations prohibit historic buildings from using the latest building materials and maintain the existing elements. Of all these physical changes, the results will be grouped into a table of physical aspects.

Physical changes in both markets have had an impact on a non-physical basis. This non-physical condition is the attribute of customers who are disturbed or uncomfortable with the market's physical condition. These attributes include accessibility, condition of goods, the reputation of the market, shop's atmosphere, in-store services, existence of public facilities, price of goods, and shopping safety (Prabowo and Rahadi, 2015). Different forms of the market will make customers either difficult to access or not. The shop atmosphere will also be different because there are no elements commonly found in previous buildings, such as local elements, ornaments, or other traditional elements. Even though it has been transformed into a new building, it will be seen whether the services provided by traders, the price offered, the condition of the merchandise are still the same as before or not. The existence of public facilities also needs to be considered whether they are easy to reach and find. If all the answers are not, then it is clear why the market is empty of visitors, and there is a need for a strategy to strengthen the sustainability of traditional markets.

These aspects will be used as material for interviews with informants. The questionnaire was structured with open-ended questions so that informants could answer freely according to their experiences. Interviews were conducted directly by the researchers using purposive sampling methods with the criteria being they are managers, traders, and consumers patronizing the markets before and after revitalization. The researcher selected several traders directly affected by market revitalization, such as traders asked to move from outside into the market. Researchers obtained informants as many as 32 traders and 24 customers from each market. This number represents the number of traders who feel the negative impact of the revitalization of traditional markets because the informants' answers are more or less the same.

From the information obtained from these informants, researchers will group their answers into a table of non-physical aspects and elaborate on the results of observations in the field. A descriptive analysis was applied to explain the impact of the revitalization process on the physical and non-physical aspects of the buildings. This involved using the observation results for the physical changes and the findings from the interview to determine the impact of revitalization on non-physical changes in both markets. These were further analysed to develop appropriate strategies to maintain the sustainability of the traditional markets af-

Figure 2. Research thinking.



Source: Developed by the author, 2020.

ter the revitalization. The research thinking used in explaining the structure of the study is, however, presented as shown in Figure 2.

3. Results and Discussion

3.1 Post-Revitalization Physical Conditions

Bulu and Peterongan are two traditional markets of much interest before revitalization as indicated by the number of people patronizing them and also famous for keeping the history of Semarang City. The observable deteriorating condition of the markets, however, made the Indonesian Government implement the “Revitalization of the People’s Market” program as stated in the Law of the Republic of Indonesia Number 7 the Year 2014 concerning trade to improve the quality of the markets’ management in order to increase their competitiveness. This effort changed the face of the markets and the Bulu market was completely revitalized because it is not listed on the heritage site even though it has satisfied the 50 years of existence required by the law. Meanwhile, the Peterongan market was not completely revitalized but the façade and space were reconstructed due to its designation as a cultural heritage site by the Mayor of Semarang (2015) and this means its original shape and materials were not allowed to be changed.

Bulu Market which was established in 1930 is located on Mgr Sugiyoprano Street, Barusari, west side of Semarang, and occupied a land area of 1092 m² which was expanded to 13,733 m² in the 1960s with only ± 6,146 m² being as a place to trade. The market was revitalized on August 17, 2012, as a result of a fire accident that burned all the structures in the area and was re-opened for operation on December 29, 2014, with a new face and a more modern look. The market now has a land area of 8,451 m² and a building area of 12,726 m² and has become a public spotlight due to the significant changes made to the structures when compared with the original design as shown in Figure 3. It is also situated in Semarang’s historic area including Tugu Muda, Lawang Sewu, and Mandala Bakti Museum as well as the business district consisting of government offices and hotels which is a highlight for tourists. Bulu Market was, therefore revitalized with the new face to maintain synergy with other buildings in that area and Semarang’s spatial plan (Maulana et al., 2013).

Figure 3. Bulu Market pre-revitalization (left) and post-revitalization (right).



Source: Survey documentation, 2020.

Another traditional market revitalized is the Peterongan Market which is located on MT. Haryono 936 street, Peterongan, east side of Semarang. It was established in 1916 and has a modern market (Rukayah and Supriadi, 2017). Its initial design had only two floors constructed with permanent concrete which makes it the first market building constructed using concrete in Semarang. The market was revitalized in April 2015 to preserve its cultural heritage, ensure more comfortable, and to become attractive and inaugurated on January 17, 2017. The façade of the market has not changed much unlike the Bulu Market and several building parts are maintained and not completely redesigned as shown in Figure 4.

The two traditional markets experienced significant physical changes both in the exterior and interior even though one had some parts changed while the other complete reconstruction. The components analysed to have physically changed include the construction year, building area, building floors number, building materials used, part of the existing market, stall number, facilities, lighting systems, waste processing systems, and parking lots (Linggasani, 2015) and the results are presented in the following Table 1.

Figure 4. Peterongan Market pre-revitalization (left) and post-revitalization (right).



Source: Survey documentation, 2020.

Table 1. Physical changes in Bulu Market and Market Peterongan.

Component	Bulu Market		Peterongan Market	
	Pre-Revitalization	Post Revitalization	Pre-Revitalization	Post Revitalization
Development year	1930	2016	1916	2014
Building floor number	1	2	2	3+1 basement
Building area	±3556 m ²	±3700 m ²	±6.146 m ²	±12.726 m ² .
Architecture design	Tropical	Tropical-modern	Tropical	Modern
Buildings materials	Reinforced concrete	Concrete steel roof trusses, roof galvalume	Reinforced concrete, spans columns made of steel, wood frame	Concrete, ACP variations on the facade, metal roof frame, the roof galvalume
Portion retained		Front facade, stall layout, and the tamarind tree		None
Stalls number	±382	±405	±1.388	±2.547
Facilities	Toilet	Toilet, prayer rooms, hydrant	Toilet	Toilet, prayer rooms, hydrants, escalators, TV
Lighting systems	Indirect lighting	Indirect lighting	Indirect lighting	Artificial lighting
Waste processing systems	Dump	Cleanliness officers, dump	Dump	Cleanliness officers, dump
Parking lot	Roadside	Roadside	Roadside, market court	Basement, market court

Source: Observation result, 2020.

The difference between the two markets is in the number of floors. with the Bulu market observed to be having 4 floors after the revitalization including a basement which serves as the vehicle parking lot and a loading dock. The 1st floor is the dry goods segment for convection traders, souvenirs, groceries, accessories, watches, and shoe services, the second floor is the wet goods segments for traders of vegetables, fruit, grocery, meat, chicken, and food stalls while the third floor is for bulky goods such as glassware and pottery. The Peterongan market is, however, different and found to be consisting of only two floors without any significant physical change due to the location of the second floor behind the market. The spatial arrangement has also not changed very much due to its consistency with the existing pattern for the cultural heritage buildings.

The post-revitalization Bulu market building is designed using a modern concept and this is associated with the fact that it was reconstructed from zero and this made it possible for the stakeholders to make the design different from the original. The word 'modern' is defined as the use of latest construction techno-

Figure 5. Roofing material for Bulu (left) and Peterongan Markets (right).



Source: Survey documentation, 2020.

logy and materials as observed in the use of steel frame for the roof, ACP panels for the façade, and latest materials applied in designing the spaces (Riyadi et al., 2019) (see Figure 5). The market does not look like a traditional market but a supermarket at the first glance and this formed with the discussion of the public at the venue of the inauguration with most of the people reported to have complained the design and materials used are far from traditional and historical terms. A slightly different observation was made at the Peterongan Market with the old building structure constructed using concrete found to be existing with only a few materials such as iron support poles and galvalume roofs replaced because they are weathered by age and affected by climate as indicated in Figure 5 (Imran, 2013).

It was impossible to preserve anything from the old Bulu Market building as a result of the fire disaster as shown in Figure 6 and this means it had to be levelled to the ground to provide a space to build another structure. This is different from Peterongan Market which is a cultural heritage building with several parts such as the shape of the roof, spatial patterns, building technology, and tamarind tree retained for authenticity because they are thousands of years old as presented in Figure 6 (Asiyah et al., 2019). Moreover, the tree area has been centripetal for a very long time and has a special meaning for the Semarang people. It used to be inside the building but now exposed through the restoration of the parts covering the tree in order to make it the centrepiece and axis of the building's symmetry.

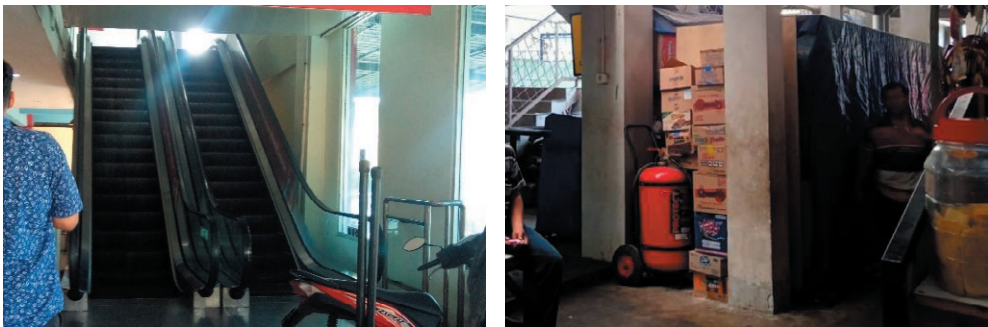
The facilities of both markets after the revitalization program were complete and adequate as observed in the prayer room, bathroom, sink, hydrant installation as indicated in Figure 7, and the loading dock area. The selling stalls' arrangement is also tidier, a large parking area is provided, and an escalator is also installed in Bulu but not in Peterongan market as shown in Figure 7 to make it easier for customers to reach the 3rd floor. However, despite the complete availability of these facilities, some traders complain about those considered to be inappropriate such as fewer large stalls, a drop-off area outside the building which blocks customers from passing, and a lack of easy access from drop-off to the stalls. The stalls

Figure 6. Original column of Bulu Market (left) and Tamarind tree of Peterongan Market (right).



Source: Survey documentation, 2020.

Figure 7. Escalator facilities at Bulu Market (left) and hydrant at Peterongan Market (right).



Source: Survey documentation, 2020.

on the 2nd and 3rd floors were also reported to be difficult for people carrying large and heavy goods and this means the sellers are not satisfied with the overall design of Bulu Market even though the escalators are working effectively.

The stalls on the 2nd floor of the Peterongan Market are also very far from the entrance or loading dock area and this makes several sellers on this floor move to the 1st-floor to avoid difficulties in moving their goods. Space is also only provided with stairs unlike the Bulu Market as shown in Figure 8 and they are also too steep and less wide, thereby, troubling the traders and customers. This leads to the abandonment of the 2nd floor as shown in Figure 8 due to the fact that all goods are already available on the 1st floor. This means the stairs are not functioning optimally even though they have convenient designs because the convenience of the users and customers are not considered by the stakeholders in the design and construction process. It shows the planners, government, or other stakeholders did not involve the traders in the revitalization planning process.

The two markets have a roomy impression when entering the building due to the height and breadth of their spaces. The Peterongan Market is designed using

Figure 8. Staircase facilities (left) and second-floor stalls (right) at Peterongan Market.



Source: Survey documentation, 2020.

the process of “indirect daylighting” on the ceiling and roof of its buildings (Eko-madyo, 2017) to provide direct natural light and eliminates artificial light, especially during the day as shown in Figure 9. This was made possible through the use of one floor which allows the entrance of light from the gaps in the roof to illuminate every part of the market. However, this method was not applied in Bulu Market because it has four floors and natural light can only enter the top floor while artificial lighting is provided for the remaining ones as observed in Figure 9 where lights are switched on, even during the day time. This means the market design is not in line with the principle of sustainable development by meeting the present’s needs at the expense of future generations’ needs (Brundtland, 1987). The utilization of significant electrical energy for a traditional market undoubtedly has the ability to affect the market’s sustainability for the next generation.

The same garbage collection system which comprises individual and communal methods is implemented in both markets. Every trash produced by each

Figure 9. Peterongan Market with natural lighting (left) and Bulu Market with artificial lighting (right).



Source: Survey documentation, 2020.

Figure 10. Waste condition in Bulu Market (left) and Peterongan Market (right).



Source: Survey documentation, 2020.

trader is collected in containers such as trash baskets, buckets, gunny sacks, and plastic bags or thrown directly into the nearest trash can or even immediately dumped on the surrounding floor (Aryanti, 2009) as presented in Figure 10. It is, however, important to note that some traders throw their garbage into their stall's trash after which it would be transported by the officers to the dumpsite. Moreover, several traders and customers litter the floor and cause the market to become dirty and smelly even though the market manager has provided wet and dry trash bins and cleaners. This is mostly associated with their thought that the market is a dirty place and it is normal for them to drop things at will and this behaviour was observed to be copied by both the customers and sellers.

Another problem often faced apart from the cleanliness of the market environment is the parking of vehicles. Most of the vehicle parking spaces in Indonesian traditional markets are unorganized and this usually causes traffic congestion (Nuzuluddin, 2015) due to the inability to accommodate customers' vehicles (Andre et al., 2017). This was observed in Peterongan Market where there is no adequate parking space despite the revitalization and this makes the customers park on the roadside and even though a whole basement is used for parking space in Bulu market as shown in Figure 11, customers still park anywhere even at their destination stalls instead of the basement.

3.2 Post-Revitalization Physical Conditions

Non-physical conditions in both markets are inseparable from the influence of the physical conditions and this means the shape and arrangement of the buildings affect the non-physical aspects. The atmosphere is also associated with the local culture and this is evident from the fact that the local people believe local wisdom has the ability to provide them with the strength and comfort to perform certain activities in the market (Tricana et al., 2015). An example of this is the Tamarind tree which has spent thousands of years in Peterongan Market and preserved up to the present moment due to the belief of the local people that it gives

Figure 11. Basement parking space at Bulu market (left) and roadside parking at Peterongan market (right).



Source: Survey documentation, 2020.

strength to the market and provides comfort to the sellers and customers. This unreasonable belief was considered by the government and stakeholders during the implementation of the revitalization program. A different scenario was observed in the Bulu market due to the complete change in the original design with the history and past stories destroyed and merged with the ground and, even though the supporting pillars remained, a new market building was constructed. The traders seem to have been forced to occupy the space as they and the market managers were not included in the design process by the stakeholders.

Another problem is that the expectations of the customers, traders, and market managers are not fulfilled (Fatmawati and Lantu, 2017). The customers have the power to either shop at a traditional or modern market (Terano et al., 2015) based on their functional and emotional desires (Linggasani, 2015) and the inability of a market to accommodate these desires means the possibility of a shift in their loyalty to other markets (Natalia and Kusuma, 2013). Some of the factors considered important include accessibility, condition of goods, the reputation of the market, the atmosphere of the shop, in-store services, the existence of public facilities, price of goods, and shopping safety (Prabowo and Rahadi, 2015). These attributes determine the patronage of a market irrespective of the type, traditional or modern and this further indicates the physical and non-physical conditions in a market have the ability to stimulate individual emotional levels which subsequently influence the market users (Linggasani, 2015). Therefore, the non-physical conditions observed at the Bulu and Peterongan markets are presented in the following Table 2.

Frequent customers of Bulu Market undoubtedly know the appropriate routes to get to the market but it will be difficult for those visiting for the first time due to the lack of clear directions to enter the market area and park vehicles. Some of the vehicles were observed to have been parked up to the 2nd and 3rd floors as shown in Figure 12 even though they are not allowed at upper floors but those with the experience of the terrain usually move to these floors while those visiting for the first time usually park in the basement. This usually leads to inconvenien-

Table 2. Non-physical conditions of Bulu and Peterongan markets.

Attributes	Bulu Market	Peterongan Market
Accessibility	Customers are accustomed to entering the market from the back door and then directly going up to the floor where the motorbike is intended. The basement and front door are rarely accessed because they are far from the stalls	Customers enter the market from the front door / main door easily, because the access is still the same as before
Goods condition	Clean but those in the unhealthy environment are neglected	Clean and placed in the appropriate territory stalls
Market services	Traders offer goods to customers without force, still the same as the traditional market sales system in general	Traders offer goods to customers without force, still the same as the traditional market sales system in general
Existence of public facilities	The existence of a toilet and prayer room is difficult to find. Moreover, customers are also reluctant to use these public facilities	The existence of toilets and prayer rooms is easy to find because there are clear signs even though customers rarely use these public facilities
Prices of goods	Affordable and bargainable. Customers can get the best price of the goods they want to buy	Affordable and bargainable. Customers can get the best price of the goods they want to buy
Security shopping	No officer's security makes customers feel insecure and shop quickly	No officer's security makes customers feel insecure and shop quickly
Market atmosphere	The market atmosphere is tranquil, unlike before, because many elements of the building have changed	The market atmosphere is tranquil, unlike before, because many elements of the building have changed

Source: Interview result, 2020.

ces in shopping with some of the customers becoming jealous and uncontented for having to walk while others use vehicles. Moreover, the smoke of the motorbikes driven close to the stalls makes the place uncomfortable for the customers and sellers and this further shows the habit of their community is also reflected in the market despite its modernity.

The goods in both markets are not treated hygienically with those in Bulu market observed to be displayed on the floor of the street corridor and not neatly arranged in the traders' stalls, thereby, creating a blockage to the customers' path as shown in Figure 13. The same was also discovered at Peterongan Market with the traders recorded to be putting their goods in the corridor due to the inability of their stalls to accommodate the number of goods they have as also indicated in Figure 13. These, however, make the customers consider their options on buying the goods and this is one of the non-physical conditions determining customers' convenience in selecting traditional markets for transactions.

The two markets apply a bargaining system and this means the traders generally offer their goods to customers after which the price is bargained as indi-

Figure 12. Customers park vehicles right in front of the stalls (left) and customers park in the basement then go up to the next floor by stairs (right).



Source: Survey documentation, 2020.

Figure 13. The condition of goods placed in the corridor of Bulu Market (left) and Peterongan Market (right).

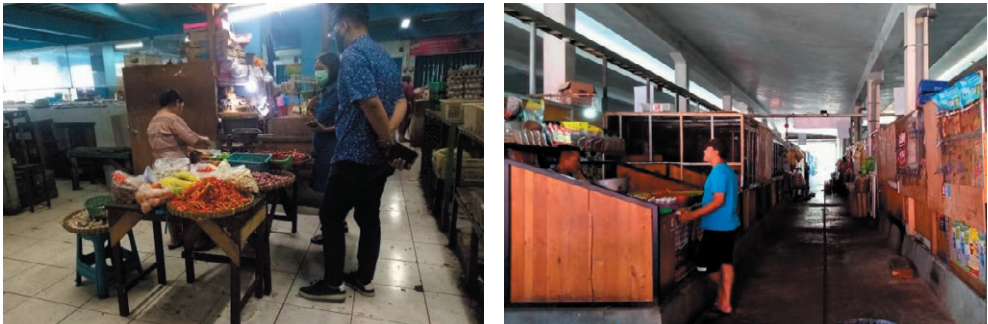


Source: Survey documentation, 2020.

cated in Figure 14. Meanwhile, the prices of goods in traditional markets tend to be cheaper than those in supermarkets and despite the little difference between the price tag and the expectations of the customers, there is an opportunity for an appropriate bargain. The buyer and seller usually reach a compromise and this only happens in traditional markets but some customers that are not willing to compromise their position on the price usually stop visiting the markets and this means everything still depends on the customer's choice.

The two markets have a tremendous amount of space for facilities but the customers were observed to rarely use the restrooms due to their uncleanliness and unpleasant odours. The same is also found with other facilities such as the prayer room which is not effectively utilized due to the fact that customers do not stay too long in the market and prefer to pray at home than at the market prayer room. These observations further intensify the fact that the physical condition of the facilities affects their non-physical conditions with the comfort of the custo-

Figure 14. Services at Bulu Market (left) and Peterongan Market (right).



Source: Survey documentation, 2020.

mers discovered to be disturbed by the unmaintained facilities. Moreover, customers are also unsure about the comfortability of using the facilities even though the officers are cleaning them.

The two markets do not have a security system such as security guards or CCTV and this means traders and customers are allowed to conduct their buying and selling activities without security despite the usual crowd associated with traditional markets and observed to be the source of crimes such as theft, pickpocketing, and several others. The absence of the security apparatus is related to the tendency of the markets being empty and the customers have been reported to be uncomfortable with the insecurity mainly due to the possibility of more explicit crimes in quiet corridors unlike the general crimes usually committed in secret. The situation is different in supermarkets where there is usually a qualified security system which aids smooth experience for the customers.

The atmosphere and the environment of the market were discovered to have become lifeless due to the lack of activities. Traditional markets are generally usually alive due to the crowd provided through the transaction between the traders and customers and this means they both depend on each other to make the market a lively place. Meanwhile, the traders' environment also affects customer behaviour (Susilo, 2012) and this means the absence of customers is due to the inappropriate management of the markets and their environment. The customers are also not willing to visit empty stalls as shown in Figure 15 but they prefer crowded stalls, close access, without upstairs, affordable prices, and friendly service. The inability of a market to satisfy any of these factors usually leads to the emptiness of the stalls and this means the traders need to find other places supported and visited by more customers.

3.3 Post-Revitalization Market Sustainability

The phenomena at the two traditional markets showed the sustainability of a historical building depends both on the physical and non-physical aspects. It is

Figure 15. Stalls atmosphere at Bulu Market (left) and Peterongan Market (right) post revitalization.

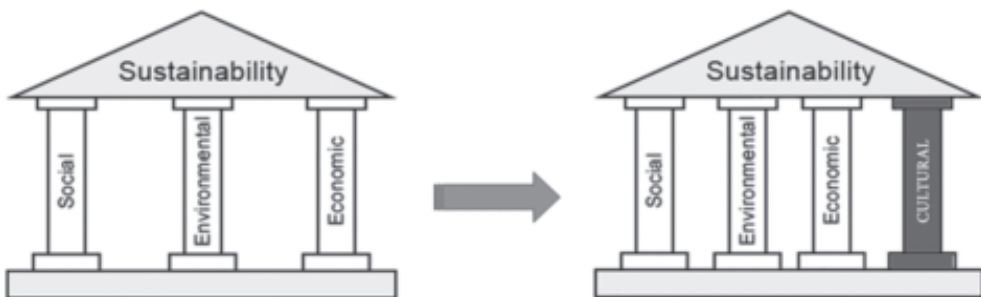


Source: Survey documentation, 2020.

important to note that sustainability was initially based on three pillars which are the environmental, economic, and social factors but has been developed over time to become a more complex and holistic concept with the inclusion of culture as the fourth pillar as shown in Figure 16 (Appendino, 2017). Culture is essential in sustainable development due to the existence of some values such as customs required to be preserved and applied by the next generation to ensure the continuation of the culture. Moreover, cultural aspects can be physical and non-physical but they are often marginalized and not considered in sustainable development (Bandarin and Oers, 2012) on the grounds of times and adherence to modernization. Therefore, old buildings are often torn down and replaced with new modern buildings as observed in Bulu and Peterongan markets.

Some stakeholders in the modern era currently believe a building's physical appearance is a benchmark for its successful construction. Modern architectural designs are presently being recommended because they are related to the latest technological developments and building materials which accommodate the expressions and creativity of the stakeholders (Sumardiyanto, 2012) and the

Figure 16. Pillars of sustainable development.



Source: (Appendino, 2017).

Table 3. Swot Analysis of the Revitalized Traditional Markets.

<p style="text-align: center;">Internal</p> <p style="text-align: center;">External</p>	<p>Strengths</p> <ul style="list-style-type: none"> · Better market appearance, in terms of the facade and spatial arrangement · Have a big name/image and is well known to the public · The building area is adequate for visitors and traders · More complete facilities · Parking space available · Better merchant service · Goods in traditional markets are diverse 	<p>Weaknesses</p> <ul style="list-style-type: none"> · The design of the building does not reflect the history · Old materials were not used in the construction and this reduces the conduciveness of the atmosphere and obscures the history of the market · Many stalls are empty without occupants · Goods are placed in the corridors and this makes the visitors uncomfortable · Facilities such as bathrooms and mosques are available but visitors are reluctant to use them · Entry and exit of the market confuse the visitors · Customers are uncomfortable using too many and steep stairs
<p>Opportunity</p> <ul style="list-style-type: none"> · The existence of a program to revitalize the people's market towards improving its competitiveness · The role of a team of cultural heritage experts in the implementation of the revitalization programs · The Government supports the revitalization of the traditional markets 	<p>Strategy SO</p> <ul style="list-style-type: none"> · Government and market users are required to collectively keep the market intact for the future by taking care of the materials to avoid weathered ingested age · The use of space, facilities, and services of traders need to be optimized to improve competitiveness 	<p>Strategy WO</p> <ul style="list-style-type: none"> · A team of cultural heritage experts needs to review the market building to ensure it complies with standards as regards the use of old materials and elements which embody the history of the market's establishment · The satisfaction of visitors and traders needs to be evaluated in relation to spatial planning, accessibility, and public facilities in order to create market revitalization in line with the needs of the market users
<p>Threats</p> <ul style="list-style-type: none"> · Modern markets have become competitors for traditional markets · Globalization makes modern building design a trend or popular · Few investors want to be involved in the development of traditional markets · Not many traders want to trade in traditional markets 	<p>Strategy ST</p> <ul style="list-style-type: none"> · Government and market users need to collectively increase competitiveness to avoid losing to the modern market · Embrace other traders in traditional markets due to the availability of more complete facilities than ever before · Invite shoppers to shop in traditional markets due to the availability of a wide selection of goods at affordable prices 	<p>Strategy WT</p> <ul style="list-style-type: none"> · The Government and stakeholders need to limit the influence of globalization on historic markets to avoid changing the appearance to modern design · The government and market users need to improve market management to increase the interest of investors in historical markets · Market users are to be involved in the planning process to ensure traders return to trading in traditional markets and also to increase the interest of the customers.

Source: Analysis result, 2020.

non-physical aspects are marginalized again. It has also been discovered that modern architecture does not consider the diversity in the social and aesthetic values in society (Sumardiyanto, 2012). There is, therefore, the need to link all the aforementioned four aspects not only to respect cultural heritage but also to maintain a building's sustainability in the present and the future (Baca and Lopez, 2018).

Cultural heritage is, however, defined as a relic of the past in a building which includes its work and workers' history which are not often recognized due to the focus on architectural products rather than processes (McCarthy and Glekas, 2020). Moreover, SWOT analysis of the revitalization programs in the Bulu and Peterongan markets was conducted to have an optimal strategy to sustain the traditional markets.

The two markets were observed to have several shortcomings after the revitalization and it is possible to formulate adequate strategies to improve their sustainability through the use of SWOT analysis. This does not involve demolishing the structures again to plan a new revitalization program but by evaluating the management practices and involving users in the planning process to achieve the appropriate programs that satisfy their needs. Moreover, the shortcomings can also be resolved by focusing on one aspect at a time. Starting from the physical aspect, this involves reusing old materials and restoring the atmosphere of the market to establish a relationship with their users (McCarthy & Glekas, 2020). Meanwhile, the convenience of market users is one of the most important factors considered from the non-physical aspects. Community participation has also been reported to be essential to the revitalization process of the traditional market (Prastyawan and Isbandono, 2018) due to the fact that the people are expected to occupy and visit the market after completion. This process was not followed in the markets studied and this caused the traders to oppose and refuse to occupy the revitalized buildings (Sandharini and Marom, 2016). Moreover, the historical aspects also need to be considered due to the fact that the shape of historical buildings, especially heritage buildings, cannot be changed to avoid eliminating their historical value. It is, however, possible for the government to improve infrastructures, environment, and plan more conveniences for the users through the revitalization programs without neglecting the value of conservation and sustainability (Darmawan et al., 2015). The physical and non-physical elements are expected to be linked together in time to revive the market in order to gradually maintain the traditional markets' sustainability (Hermawan et al., 2018).

4. Conclusion

The Bulu and Peterongan markets experienced a significant impact of the revitalization program with the physical changes observed to be affecting the non-physical aspects. One of the visible impacts is the change in the market's shape which makes the users uncomfortable with the activities within the market and this was found to be due to the non-involvement of the users in the planning process which led to the implementation of a design which is not in line with their expectations and needs. Moreover, the SWOT Analysis showed both markets have more weaknesses than strengths and the same was also observed with the opportunities and threats. Several strategies are also recommended to maintain sustainability in both markets after the revitalization and of these is the evaluation of the users' satisfaction and use the response to improve the market in line

with their expectations and needs. This is expected to increase the interest of the people to trade and shop in the revitalized traditional markets. It was also recommended that the program should be implemented and run optimally to improve competitiveness in order to maintain the sustainability of the markets through the sustenance of the four pillars of sustainable development.

It was discovered that the revitalization programs were expected to restore the liveability of the traditional markets but the reality is the opposite and this was majorly due to the non-inclusion of the indigenous people of Semarang in the planning process. These people understand the history and conditions of the traditional markets and observed their expectations are not satisfied due to the elimination of the market building's history after the revitalization. Therefore, governments and stakeholders need to understand a building or region's historical value before revitalization. Moreover, the findings also contribute to previous studies on conservation and sustainability development which are necessary considering the current transitional age where history is no more very important. A virtuous generation, however, needs to continually maintain historical value in whatever form, such as buildings, due to the inappropriateness of revitalization programs to eliminate local wisdom (Fraser et al., 2002). It is possible to use this research as a bridge for further studies due to the possibility of variations in case studies but the strategies recommended may not be applicable in other case studies elsewhere or the future. Therefore, several shortcomings observed in this research need to be addressed in further studies related to the formulation of more optimal and effective strategies to maintain the sustainability of traditional markets.

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