

Evaluation and Implementation of SNI 8152:2021, Smart Living and Smart Environment at Pandansari Market, Balikpapan City

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ABSTRACT

The conditions of traditional markets are dirty and irregular, supporting the fact that people prefer to shop in modern places. Nowadays, it needs to be realised that the only centre of trade is no longer in traditional markets, the increasing number of modern markets can make traditional markets need to survive in competition so as not to be eroded by the times. There is a need for innovation in traditional markets to advance the market economy so that traditional markets can compete with other markets. Pandansari Market is one of the markets located in Balikpapan City and has various problems related to the quality and physical and non-physical conditions of the market. The goal of this research is to find out the supporting factors of Pandansari Market revitalisation by using smart living approach and SNI 8152:2021 People's Market. Smart living will review in terms of harmony, health, and mobility. Smart environment will review in terms of infrastructure, protection, and energy. Meanwhile, SNI 8152:2021 Public Market will review in terms of general requirements, technical requirements, and management requirements. The method used in this writing is a qualitative method by conducting several stages of research. The results of this study are the supporting factors that make Pandansari Market necessary for revitalisation through a review of existing conditions and opinions from the UPT market, traders, and market visitors.

Keywords: Traditional Market; Revitalization; Smart Living; Smart Environment.

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INTRODUCTION

The market is a place that cannot be separated from the daily lives of Indonesian people. Markets provide a place for sellers and buyers to meet and bridge the needs of producers or producers and customers in conducting buying and selling transactions [1]. Based on the time of its formation, the market is divided into two types, namely traditional markets and modern markets. Traditional markets provide great opportunities for micro, small, and medium enterprises [2], and modern markets are markets that have a modern nature and provide a wide variety of products offered at predetermined prices [3].

In this era it is necessary to realise that the central trade is no longer in the people's market, the increasing number of modern markets can make people's markets need to survive in competition so as not to be eroded by the times. The government is trying to improve facilities and infrastructure in providing support for activities in the people's market, where this effort has the aim of increasing the attractiveness of buying and selling transactions with the aim of

being expected to advance the economy in each region [2]. There is a need for innovation in the people's market to advance the market economy so that the people's market can compete with other markets. One of the reasons for the need for innovation or change in the people's market according to [4] is the dirty and irregular condition of the people's market which supports the fact that people are more inclined to shop in modern places. According to [5] the importance of maintaining the physical condition or environment of the market to keep it good. According to [6] to keep traditional markets in existence, one of them is through the support of infrastructure improvements and market facilities.

METHOD

This research uses a qualitative method by taking a descriptive approach. Data collection is done by observation, and interview. Observation is done directly in the field to the object of research with the aim of knowing the current condition of Pandansari Market Balikpapan. Interviews are conducted with the aim of collecting information related to Balikpapan Pandansari Market facilities, while the object of the research is the users of Balikpapan Pandansari Market, namely traders, visitors, and managers of Balikpapan Pandansari Market.

RESULTS AND DISCUSSION

Analysis of Public Market SNI Implementation

According to SNI 8152:2021 on Public Market, markets are required to have good lighting, good air circulation, no stagnant water, and no slums. However, the findings obtained at Pandansari Market in Balikpapan City do not comply with the requirements of SNI 8152:2021. The condition of Pandansari Market in Balikpapan City can be seen in the following figure:



Figure 1. Market Gangway



Figure 2. Temporary Disposal Site Pass



Figure 3. Market Roof



Figure 4. Public Toilets



Figure 5. TPS Pass



Figure 6. Market Drainage

Based on the observation at Pandansari Market Balikpapan, there are some discrepancies between the variables of SNI provisions and the original conditions in the field. Pandansari Market of Balikpapan City is a type I market with 663 active traders. The results of the analysis on general, technical, and management requirements of SNI 8152:2021 People's Market can be seen in Table 1.

Table 1: SNI 8152:2021 Variables and Observation Results

Variable	Reference	Existing Conditions
General Requirements		
Legality Document	National Standardisation Board (2021)	The market has legality documents related to market operations from authorised agencies or institutions.
Market Location	National Standardisation Board (2021)	Pandansari Market is located in a location that is easily accessible by public vehicles. The market is located quite far from the main road with a length of $\pm 480\text{m}$. However, there are no market location markers in the surrounding area.
Hygiene and Health	National Standardisation Board (2021)	Pandansari Market does not provide hand washing facilities equipped with soap and running water or hand sanitiser at the entrance. In the market, there are puddles of water, and an unpleasant odour.
Safety and Comfort	National Standardisation Board (2021)	Safety and comfort at Pandansari Market has a circulation that makes it easy for market users to move freely, but is hindered by the placement of goods owned by traders that exceed the stall area or trading room. Some building materials in the market are materials that are easy to maintain.
Technical Requirements		
Trade Room	National Standardisation Board (2021)	Shops and stalls in the market do not obstruct the flow of air circulation. However, the placement of merchandise covers the market corridor area.
Accessibility	National	All facilities in the market are easily accessible and

Variable	Reference	Existing Conditions
	Standardisation Board (2021)	utilised by everyone, including people with disabilities and the elderly.
Zoning	National Standardisation Board (2021)	Zoning marking information according to commodity types and standardised regulations. However, this is not the case in reality.
Parking Area	National Standardisation Board (2021)	Pandansari Market has a parking area. However, there is no division of parking areas between traders, visitors, managers, and disabled parking.
Loading and Unloading Area	National Standardisation Board (2021)	Pandansari market has a loading and unloading area
Corridor /Gangway	National Standardisation Board (2021)	Pandansari Market has a corridor or gangway. However, the dimensions of the corridor become narrower due to the placement of merchandise belonging to traders placed on the corridor.
Remeasurement Post	National Standardisation Board (2021)	Pandansari market does not have a remeasurement post
Tera and Tera Ulang Session	National Standardisation Board (2021)	Pandansari Market conducted a tera and tera ulang session.
Management Office	National Standardisation Board (2021)	The location of the management office is easily accessible to visitors or traders
Toilet/Bathroom	National Standardisation Board (2021)	Pandansari Market has toilets and separate male and female toilets. However, some toilets are not accessible to people with disabilities as they do not have ramps.
Breastfeeding Room	National Standardisation Board (2021)	Pandansari Market has an breastfeeding room. However, it is currently unused.
Closed Circuit Television (CCTV)	National Standardisation Board (2021)	Pandansari Market does not have CCTV managed by the market.
Prayer Room	National Standardisation Board (2021)	Pandansari Market has a prayer room. However, it is located on the 3rd floor of the building so it takes extra effort to be able to use this facility.
Multipurpose Area	National Standardisation Board (2021)	Pandansari market does not have a multipurpose area space
Market Health Services Post	National Standardisation Board (2021)	Pandansari Market has a market health service post. However, it is currently unused.
Security Post	National Standardisation	Pandansari Market has a security post. However, it is currently unused.

Variable	Reference	Existing Conditions
	Board (2021)	
Smoking Area	National Standardisation Board (2021)	Pandansari Market does not have a smoking area.
Sanitation Room	National Standardisation Board (2021)	Pandansari Market has a sanitation room.
Building Elements	National Standardisation Board (2021)	The floor is non-slip, flat, and easy to clean. The table in the trading room has a flat s
Safety in Buildings	National Standardisation Board (2021)	Pandansari Market has fire extinguishers, hydrants, fire alarm systems and evacuation routes. However, it does not have fire sprinklers.
Lighting	National Standardisation Board (2021)	Pandansari Market has a multi-storey building, on the first and second floors do not have enough lighting so they rely on lamplight, on the third floor has sufficient lighting because part of the roof uses transparent materials.
Circulation of Air	National Standardisation Board (2021)	Infrastructure for ventilation in the market is good enough according to the function of the room or area.
Drainage	National Standardisation Board (2021)	The drainage at Pandansari Market is not well covered. This drainage has a width of ± 6 m.
Clean Water Availability	National Standardisation Board (2021)	Clean water in Pandansari Market is available in public toilets. However, there is no clean water installation in the wet food area.
Wastewater Management	National Standardisation Board (2021)	Pandansari market does not have wastewater management. However, in the Margasari area there is a Margasari Communal WWTP.
Garbage Management	National Standardisation Board (2021)	Pandansari Market has waste management, namely compost houses and temporary disposal sites.
Information and Communication Technology Facilities	National Standardisation Board (2021)	The use of technology at Pandasari Market is videotron as digital information.
Digitalisation of Public's Market	National Standardisation Board (2021)	Pandasari Market has yet to utilise digital payments and digital market promotion.
Management Requirements		
Market Manager Work Procedures	National Standardisation Board (2021)	Pandansari Market has a working procedure for market management.
Market	National	The management structure of Pandansari Market

Variable	Reference	Existing Conditions
Management Structure	Standardisation Board (2021)	consists of the head of market, the head of the traders, the cleaning department, and the security department.
Trader Empowerment	National Standardisation Board (2021)	Empowerment of traders has not been done optimally

Analysis of Technology Implementation Smart City

Smart city is a city concept that can handle problems in various fields with the help of digital technology [7]. The dimensions of smart city consist of 6 dimensions, namely smart governance, smart branding, smart economy, smart living, smart society, and smart environment [8] and [9]. Based on some literature obtained that discusses the implementation of smart living technology, and smart environment. Then the variables that must be met can be seen in Table 2.

Table 2: Smart City Variables and Observation Results

Variable	Reference	Existing Conditions
Smart Living - Harmony		
Electrical Facilities	Puspita and Syaodih, 2022	The market has electricity facilities that can be used by market users
Free Water Station	Puspita and Syaodih, 2022	The market does not have a drinking water station that can be consumed by market users free of charge.
Smart Living - Health		
Elderly-friendly infrastructure facilities	Puspita and Syaodih, 2022	The market has elderly friendly facilities such as ramps in accessing the building but the current ramps are not wide enough if accessed by two people at the same time.
Planting plants that can absorb CO2 and improve air quality	Balikpapan City Government, 2019	The market has enough plants that can absorb CO2
Smart Living - Mobility		
Available mass transit that ensures easy mobility	Puspita and Syaodih, 2022	The market has mass transit that facilitates access to the market such as offline and online-based public transport.
Public transport route information facility	Balikpapan City Government & Puspita and Syaodih, 2022	The market lacks information on public transport routes and schedules
Smart PJU (Public Street Lighting) facilities	Nooringsih and Susanti, 2022	The market does not have smart-based public street lighting
Smart Environment - Infrastructure		
Rooftop Facilities	Deloitte, 2020	The market has a rooftop facility, but this facility cannot be used by market users.
Smart Environment - Protection		

Variable	Reference	Existing Conditions
Water and air condition monitoring facilities	Nooringsih and Susanti, 2022	The market does not have water and air condition monitoring facilities.
Smart Environment - Energy		
Energy utilisation facilities from household waste and food stalls	Nooringsih and Susanti, 2022	The market has facilities for energy utilisation from household waste and food stalls into compost.

Analysis Satisfaction of Traders and Visitors

Based on the results of preliminary interviews with UPT Pasar Pandansari, it is stated that Pandansari Market needs to be revitalised because the condition of this building has been built for a long time, seeing market facilities that do not exist or are incomplete makes revitalisation necessary.

Based on the results of interviews with Mr. "B" as a trader, stating that the current market conditions tend to be quiet, he agreed if this market was revitalised, according to him this was an effort to revive the market atmosphere.

Based on the results of interviews with Mrs "A" as a trader, stated that the layout of the market needs to be rearranged properly, she highlighted the existence of buying and selling activities (traders outside the market) around the market road making the place look shabby so that it causes the road to become narrow to experience traffic jams, this makes the market area quiet and the majority of consumers are regular traders.

From the visitor side, according to Mr "P. B" as a visitor also confirmed the cleanliness of the environment in the market area, especially in the wet market area, the drainage system exists but is clogged with garbage, the presence of puddles makes the market conditions look shabby and smell bad.

Mr "S" as a visitor, stated that the current market conditions are not neat, the layout of each stall needs to be arranged properly, and the existence of a 3-storey market building is not relevant to market users (traders and visitors).

CONCLUSION

Based on the research that has been conducted, it is concluded that the facilities of Pandansari Market of Balikpapan City are not in accordance with the existing standards so that it affects the comfort of market users, and the application of smart city technology has not been applied to Pandansari Market of Balikpapan City so that it is not in accordance with the Balikpapan City Government's plan. Based on these problems, it is necessary to revitalise the people's market in accordance with SNI 8152:2021 and the application of smart city technology. This is done by making the traditional market a safe, comfortable, clean, aesthetic building, and realising a city that innovates for the benefit of the community with efficient and effective resource management.

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