

# Components of Indonesian Traditional Market: Design Tools for Revitalisation

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**Abstract.** The lesson learnt of revitalization of market buildings is still a dilemma for traders as the main actors of traditional Indonesian market life. The root of the revitalization issue has not been properly mapped objectively, due to the complex role of the stakeholders involved in it. This research uses case study method with a qualitative approach by semi-structured interviews and observation of typology of Indonesian traditional market activities in five metropolitan cities of Java. This study uses four samples of traditional markets, one in Jakarta and three revitalized markets in Semarang. The mapping of the component is composing by field observation and Focus Group Discussion (FGD) with a civil engineer and two architects. The results of this study obtained justification that the revitalization of traditional Indonesian market if mapped components are factors that affect the success or failure of a revitalization process when compared to some case studies of market revitalization in Jakarta and Semarang. This research suggests to the local decision makers to avoid the paradigm of budget-based development but, also to adapt socio-engineering aspects by considering the social interaction of traditional market traders in the Indonesian context.

## 1 Introduction

Traditional Markets as part of public buildings have unique characteristics in the management and interaction of stakeholder work in the place. The social interaction of market stakeholders becomes the inherent soul of market operations even in the process of its revitalization [1,2]. The CIB Research Roadmap becomes an indication of how the practice of the public building construction industry becomes a dilemma that the trend of sustainable building issues is no longer popular since 2012 [3]. In the context of the construction industry in Indonesia, especially in traditional market buildings as part of the public building sector, it shows indications of unhealthy economic competition with the modern market since 2007 [4]. According to the concept of sustainability, the condition of traditional Indonesian market which is non-competitive and begin to be abandoned by the community is a form of unsustainable practice on the pillars of social-economy. Furthermore, the market situation that is not properly set up is also a form of inequality for the traditional market building design that is not adaptive to the changing of socioeconomic

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phenomenon. Case studies of traditional market revitalization in Jakarta was lesson learned for future market building arrangement. An adaptive market building design for a comfortable and flood-free environment situation is a fundamental need for a public building. A building, including traditional markets, in addition to meet the technical requirements of the building code it has to have added value as well as the concept of sustainable building [3]. Therefore, research on how sustainable market design become a necessity to address the challenges of changes in buyer behaviour and trade competition in the micro-economic sector.

### **1.1 Engineering design of revitalisation traditional market in urban area: a case of Jakarta**

The design of buildings in Indonesia experiences a phase of change adapted from several concepts of building structures from several countries. However, environmental conditions such as earthquakes and other types of local construction materials are accommodated in the Building Code and the National Standard (SNI) of materials and planning procedures. The location of buildings in Indonesia located in the Ring of Fire is the main factor considered in the design. Although traditional market engineering designs cannot be separated from building standard rules for earthquake resistant, we cannot rule out how the context of a traditional market is in the community. Thus, there are several things should be considered in the design of market building revitalization. Unfortunately, the building practitioners and stakeholders involved are not sensitive enough to take into account the social impacts of traditional market revitalization processes. In general, the revitalization of traditional markets in Indonesia is still focused on spending project budgets and replacing old buildings.

The civil engineering and architectural aspects are two fundamental aspects of the traditional market revitalization process in this research. Hermawan [1] has described the process of revitalizing traditional markets that have been successful in Jakarta. The KGM market building is designed with the principles of energy-efficient, modern and public accessible tropical buildings. The boundary condition of the KGM market design. Historically, the location of the KGM market is in flood-prone and densely populated areas. The architectural concept used is mezzanine and semi-basement to camouflage the number of floors so it does not look too high. Structurally, the KGM market building applies a pre-cast element to accelerate the construction process with guaranteed accuracy.

Learning from case studies of KGM market as one of the public buildings in Jakarta lies in how the strategic approach are performed by contractors. The socialization process has a significant role for the construction process. The key to successful socialization is how the contractor communicates the design of the market building.

Although market traders are not a party with knowledge on building structures, but as end-users they play a role in the approval process of project owner (client) design because they involve in the determination of selling price of the kiosks. Interaction between stakeholders, Local Authority, Contractor and End-user in the indicator of KGM market revitalization success. The balance of interests of the three parties is a 'sustainable' measure in the context of market in Jakarta. Furthermore, the technical design concept (engineering design) of market revitalization design in Jakarta is more profitable because it uses the contract system of Design and Build (D & B). Thus, the gap between planning and construction implementation is small because there is shift in the interaction process of design implementation during socializing with the market traders.

## **1.2 Experience of traditional market revitalisation in Semarang**

The experience of revitalizing traditional markets in Semarang City becomes the comparison of urban market case study. Semarang has a city typology similar to Jakarta. Traditional market location becomes the determinant for its operational in post revitalization. Based on market building standards in Indonesia, several design components are set to include the dimensions of the market building structure: the capacity of the merchant to be accommodated, the dimensions of access to and from the market and its complementary infrastructure [5].

Successful revitalization is described not only during the initial process but also post-construction. This can also be measured through the hustle of a market. Thus, Rizal and Alhamidi [6] tested the correlation of eight factors developed from several empirical studies such as Market Distance to Main Street, Visibility from Main Street, Market Parking Area, Area Density, Number of Market Traders, Total Access, and Number of Floors of market buildings. However, according to Rizal and Alhamidi [6] statistically proves that there are 4 significant factors correlated to the market operations in Semarang city, namely the density of the region, the number of traders, the amount of access to / exit from the market building and the number of public transport routes that serve toward the market.

The experience of market revitalization in Semarang city shows that from three revitalized markets, there are some design components that have not been met in Detail Engineering Drawing (DED) when compared to the applicable SNI Community Market [5]. Regarding the standard revitalization of the traditional market arrangement according to SNI Community Market [7], the application of the zoning system and the provision of facilities are good and proper. Nevertheless, there are several things required to be updated and added, because the previous condition has not met with the standards.

## **1.3 Beyond to design tools for revitalisation: a challenge in Indonesian public building**

Building Standard or Code is an ideal form that can be accommodated in the design stages. However, some revitalization of traditional market cases remains a dilemma for traders as the main actors of traditional Indonesian market life [1,2]. The root of the revitalization issue has not been properly mapped objectively, due to the complex role of the stakeholders involved in it. As the developed environment is social science, the engineering matter still exists among revitalization. Not only the physical matter but also the life aspect to be resolved along the life cycle project. The needs of design tools in the design aspect due to revitalization of some projects in Java Island [5,6]

The limitation of Building Code exists in the social aspect of revitalization. The general perspective of the design tools of public projects is still on the scope of engineering such as the reliability of structure and material [8]. The social aspect of revitalization is multi-disciplinary and crossing sector which is identified from the same platform among stakeholders involved. The design platform means for every party from top management to the front liner at local authorities. Since the local autonomy on Post-Reformation Order, Local Government has different role in public building sector. Thus, the Design Tools should be generated explicitly on the design code.

## **1.4 Research method**

The case study method for the traditional market context in Java was used to map the design components of the market building revitalization with a qualitative approach by semi-structured interviews and observation of typology of Indonesian traditional market

activities in five metropolitan cities of Java. This research used four samples of traditional markets, one in Jakarta and three revitalized markets in Semarang. The mapping of the component was composed by field observation and Focus Group Discussion (FGD) with experienced engineers (more than 15 years), a civil engineer (Civil 1-HS) and two architects (Architect 1- ABS and Architect 2-WS). The element of revitalization had been figured out through full transcript of FGD.

## 2 Results and discussion

### 2.1 Indonesian traditional market from concept to practice

The concept of traditional Indonesian market has developed since Ancient Mataram [9]. Artefacts supporting the argument are in the reliefs of Borobudur temple. The results of FGDs with civil engineers and architects illustrated some perspectives on traditional markets, in terms of concept, characteristics and current developments.

According to the concept of the city in Java that has been developed up to date, it was strongly influenced by the Hindu concept. As described by Architects (1-ABS) that: "As we look back from the ancient city arrangement in Java, in Javanese dimension, market is one of 4 elements as written in mandala, based on the Hinduism concept of "Gatra Tunggal"; the first one is the Palace or the "Keraton", the second is the "Alun-Alun" (city square), the third is market, and the fourth is temple (for Hindu) or mosque (for Islamic Mataram)".

Further, from the architectural perspective, Indonesian market emerges from social interaction which makes items or merchandise, such as fabrics, groceries and other daily needs much cheaper. The market building is also humble, down to earth, and constructed from local materials. In the past, most of Indonesian traditional market grew as an organic market, it could be under the trees and it appeared in the intersection. The people built the small stalls between there area, and it created a vernacular building pattern (Non-Engineered Building).

However, there are two styles of the traditional market in Java developed currently. First, the colonial building style model. There are some traditional markets planned by Dutch architects, such as Pasar Gede, as it adopts local architecture. Pasar Gede has many openings and open air. As there may be many buyers (especially women) with heavy groceries, there are several ramps so that the grocery can be dragged. Secondly, the modern model of building concept like Mall. The current modern markets try to imitate the concept of mall buildings, but without Air Conditioning (AC) on market to avoid high maintenance for renters, who seek for affordable rent.

Another perspective of civil engineer identifies the characteristics of traditional Indonesian market in two types, wet market and iconic market. He stated that "..... traditional markets have some degrees; wet markets which really serve local people to shop daily needs, such as Karang Sari market in Semarang, and iconic markets such as Bringharjo in Yogyakarta, Peterongan in Semarang, and Pasar Gede in Solo". According to the civil engineer (Civil 1-HS), for wet markets focus on the function to maintain low cost and direct interaction between vendors and buyers. While the iconic market is more likely to function for tourism. Therefore, the difference in function will affect how the market building should be designed because it affects the attractiveness of the buyers.

The challenge of revitalizing a traditional market is to reorganize the components of social interaction within. The components are more difficult than the physical design of market buildings, because social interactions cannot be measured directly by the building engineer (Architect 2-WS). Knowledge of traditional market interaction can only be

obtained from research experience and conversation with market traders and stakeholders involved in market management. The revitalization design experience considering socio-engineering aspects also occurs in the KGM market in Jakarta [1,10]. In fact, technical aspects will be successful after social aspects pass through the process of socialization and design consultation if market traders agreed with the contractor and local authority.

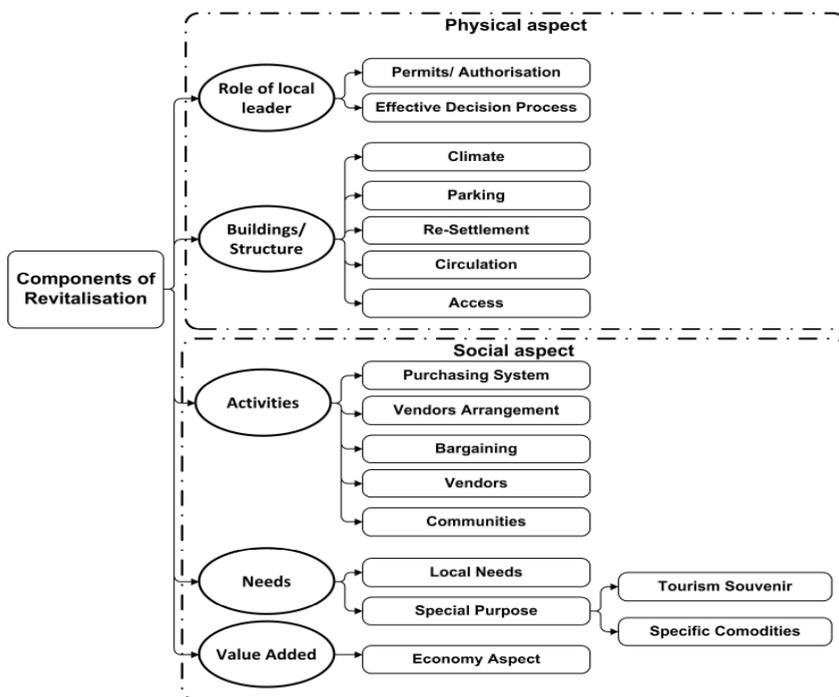
## 2.2 Component of Indonesian traditional market

Through the interpretive approach of the FGD results and the DED document from the KGM market case study in Jakarta and three sample revitalised traditional market in Semarang [1,5], traditional market components can be described as in Fig 1.

Revitalization is an activity that has two main dimensions, namely social aspects and physical aspects. First, the social aspect is a form of social interaction of traditional market communities that describe *trust*, *social capital* and *loyalty* [11,12]. These three elements of social aspect are traditional market sociology phenomena determining the direction of market development before and after revitalization. Trust is developed in a relatively long time because sociologically, traditional market traders have a strong relationship with each other. In fact, under the economic crisis alone, the rotation of Indonesia's traditional market economy is not affected [4]. Based on the KGM market revitalization experience in Jakarta, the determinant of the successful implementation of the revitalization design and the socialization phase depends on how good communication with the representatives of the market traders. The social aspects of the revitalization design component consist of the pattern of market activity, the purpose of market development and the value added after the revitalization. Second, the physical aspect is a reflection of the engineering aspect of the building, which is influenced by climatic conditions, parking arrangement, merchant relocation management and the role of local leader in making decisions related to market revitalization process. The KGM market revitalization experience in Jakarta is a form of interaction between the role of local government and experienced contractors. The key decision of the revitalization process is determined by how the government is behaving towards the environmental change process due to the revitalization of buildings and the social interaction of traders during pre- and post-construction.

## 3 Conclusions

The design tools of revitalization should be considered by social and physical aspects. This article justifies that social aspect should be considered as a design tool in the future. The lesson learned from KGM project in Jakarta and revitalized markets in Semarang proves that the concept of local market, the structure of local leaders, the structural or building construction aspects, the purpose of revitalization accommodate people needs of the market and added value in the post-revitalization. Revitalisation suggests to the local decision makers to avoid the paradigm of budget-based development and to revisit the manual design of Indonesian Tradition market to be more adaptive with character of traditional market, technical assisting to Government (National or Local) to craft the Design Guide for Revitalization which is more adaptive to local problems, local needs and local content.



**Fig. 1.** Component of Indonesian Traditional Market Revitalisation

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