Fragmentation of street space usage in Chinatown Village Semarang, Indonesia
Case study: Gang Baru Street

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ABSTRACT

As a trade center, Semarang Chinatown contributes to developing the economic activities of the city. The expansion of the economic network creates various opportunities through informal activities. This is reflected in the inclusiveness of the local community, using roads as venues of economic activities, especially on Gang Baru Street in Semarang Chinatown. The street connects the neighborhood, accommodates informal activities, and serves as a traditional market. Furthermore, it has been privatized by trading activities from the shophouses and street vendors. The claim trend has commodified the formal use of the street as access infrastructure. Consequently, the differences in formal and informal activities cause the use of road space to be fragmented. Therefore, this study examines the fragmented use of Gang Baru street caused by the segmented informal activity interests. The qualitative method is used for a thorough bottom-up observation of the street's activities. Various activities are classified based on the street user segmentation by organizational practices and spontaneous community behavior. This categorization is also based on the users' participatory or antagonistic response to the street's formal use. The result shows activity diversity portrays a dialectic interest representing the fragmented use of Gang Baru Street.

Introduction

The Chinatown area of Semarang is a settlement with a historical village setting centered on the Chinese community since the colonial period (wijkenstelsel). This area plays an integral role in the dynamics of the city's economy, especially in the trade sector. Based on the spatial structure of Semarang City, Chinatown is strategically located for urban economic growth (BAPPEDA Kota Semarang 2011). It borders other economic embryos, such as the Johar Market, the Kota Lama, and the Kauman (Pratiwo 2010; Rosiana 2002; Purwanto 2005). Economic activity is a daily routine between trading centers. As a result, they attract informal economic activities, especially in Semarang Chinatown. Furthermore, the crowded center becomes an opportunity for spontaneous informal economic activities.

Street as a public space becomes a place for various informal activities (Micek and Staszewska 2019; Francis et al. 2012). The use of the street for informal activities is evident on Gang Baru Street, which accommodates traditional markets from morning to noon. This activity changes the formal role of streets as transportation infrastructure for Chinatown settlements (Pemerintah RI 2004). Buying and selling activities are spread along Gang Baru Street from shophouses and street vendor stalls, a trend that claims to privatize the space (Mela 2014; Madanipour 2017; Choironi 2004; Alfanadi...
Street space use by informal activities

A claim for street space use is formed by a strong individual, institution (top-down), or an informal individual or group trying to create a space (bottom-up). Stronger individual and institutional resources allow for substantial physical and institutional changes to urban space (formal). In contrast, claims by less powerful groups take more lenient and temporary (informal) forms (Madanipour 2010).

Every individual, group, or organization tends to shape urban spaces with their image. The space created allows users to feel safe and in control, with or without considering the other’s needs. Therefore, public space, even in its most public form, produces its nuances. These imply different characters related to group combinations and pressure from formal-informal interests to find identities that match the reality fragments of the emerging community activities (Madanipour 2010).

The combination is shown through the diverse characteristics of active and passive roles in street space use (Alcântara De Vasconcellos 2004). The active role is characterized by movement and results from the need for street space use by pedestrians, cyclists, drivers, and passengers. Contrasting, the passive role is static and influenced by the active use of street space by occupants, visitors, and workers. It is considered a sociological approach described in table 1.

Contrasting with the existence of the Gang Baru market caused its commodification.

The privatization and commodification of public space by informal activities is a symptom of street fragmentation (Mela 2014). This fragmentation is grouped in the different interests of the community in street space use. The street space is segmented by the community’s informal response different from the intention of the street space (Hendrawan and Dwisusanto 2017). Therefore, this study examines the Gang Baru street use fragmentation caused by various informal activity interests. The fragmentation represents the socio-spatial reality of the community in using the street as a public space. Therefore, it is useful as an alternative and middle way in designing public spaces. In this regard, architects or city designers act as top-down practitioners vulnerable to the collective response of bottom-up community practices spontaneous in street space use.

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| Role category                        | Actors                                                                 |
|--------------------------------------|------------------------------------------------------------------------|
| Non-mechanical and active            | Pedestrian                                                             |
| Non-mechanical and passive (static)  | Occuptant                                                              |
|                                      | Visitors/guests                                                        |
|                                      | Business                                                               |
|                                      | Owner/employee                                                         |
|                                      | Customer                                                               |
|                                      | Public facilities users                                                 |
|                                      | Public transportation users (waiting activity)                          |
| Mechanical and active                | Cyclist                                                               |
|                                      | Motorists                                                              |
|                                      | Driver (car, public transport, freight transport)                      |
|                                      | Passengers (cars, public transport, freight transport)                 |
| Special roles (certain conditions)   | Police                                                                |
| Indirect regulation and planning     | Urban and transport planner                                            |
| Indirect interest                    | Real estate agent and developer                                        |
|                                      | Construction sector                                                    |
|                                      | Automotive and related industries                                      |

Source: (Alcântara De Vasconcellos 2004)
conditions. Public space is intended for individual freedom of expression and tolerance for differences.

The "up to us" concept is an act against politics, a satirical behavior, or exploiting a public space to benefit certain users. This thinking adopts "guerrilla operations" that users are fully aware of carrying out "out-of-place" activities in public spaces. Moreover, the "up to us" concept involves the courage to take risks, take advantage of opportunities, stealth, and avoid exposure to the activities by controls.

Fragmentation in public spaces

The different roles of street space use are represented by segmented and specialized activities. They reflect various social and cultural processes as lifestyles of actors of multicultural groups. This decreases the quality of general welfare to benefit certain markets.

Fragmentation is realized in the city subdivision into groups of different physical and time-space. This results in groups with specific characters and purposes. Moreover, the theme in an urban space shows a dialectical dimension between the exclusive and the inclusive, indicating various activities in each place context. Public space is fragmented in many closed or controlled spheres, protecting its users from unwanted actions to regulate community behavior. However, diverse people's behavior could contradict the control strategy but acts as an alternative in developing urban spaces (Lydon, Garcia, and Duany 2015; Tyrväinen 2015).

The schematic in figure 1 classifies bottom-up practices that represent alternative informal activities as a response to a top-down strategy. The x-axis represents the community composition and intention in responding to top-down practices. Similarly, the y-axis axis represents the nature of the practice actors in interpreting the top-down strategy. The intersection of the two axes forms the four quadrants of the bottom-up practice structure of certain individual or group activities (Mela 2014).

**Method**

The study used a qualitative-deductive method with a socialistic approach based on literature review and observation of a case study on Gang Baru street. Field data were collected by observing the community's daily activities using the street space in Chinatown, Semarang (figure 2). This area was chosen based on the street space commodification by the diverse informal activity use. These activities shift the formal use of the street as a transportation infrastructure.

Role analysis was conducted to determine the combination of various activity actors in street space use (Alcâ`ntara De Vasconcellos 2004). The role groups were then classified according to

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**Figure 1.** Quadrant of bottom-up practice in public spaces  
Source: (Mela 2014)

**Figure 2.** The location of the Gang Baru street public space in the Chinatown area of Semarang  
Source: Edited from Humanitarian OpenStreetMap Team (2019)
the bottom-up practice quadrant. The classification was carried out based on the concept reference of community activity in interpreting the street space use (Alcañtara De Vasconcellos 2004; Capulong Reyes 2016). Table 2 shows the classification reference in each bottom-up practice quadrant group on Gang Baru street.

Table 2. Bottom-up practice classification reference

| Quadrant type                  | Information                                                                                                                                 |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| Quadrant A: participatory-organization | Activities in this quadrant are motivated by the “by us” mentality. Street users are collective community associations that support the design and arrangement of street spaces. The perpetrators act in a participatory manner and express their refusal when the success of their actions is harmed. |
| Quadrant B: spontaneous-participatory behavior | Activities in this quadrant are motivated by a combination of “by us” and “for us” mentalities because they supported the top-down intention of the street as access. Actors’ activities actively adapt to spatial situations, support practices that ensure multiple uses, and accept diversity. |
| Quadrant C: organization-antagonist | Activities in this quadrant are motivated by a combination of “for us” and “up to us” mentalities instead of top-down intentions. The organized practice of antagonist actors to control and cause conflict, but whose interests are affirmed and accepted by the public. |
| Quadrant D: spontaneous-antagonist behavior | Activities in this quadrant are motivated by the “up to us” mentality. Disorganized behavior that supports the control of public space by marginalized groups with various lifestyle backgrounds. |

Source: (Mela 2014; Capulong Reyes 2016)

The classification shows that the public space use is fragmented by the collective dialogue of community practices on a bottom-up basis.

Result and discussion

Activity fragmentation in the Gang Baru street space

Formal-informal activities on Gang Baru street

Gang Baru street is an open Chinatown area of Semarang limited by shophouse buildings (1-4 floors) along the street (Handinoto 1999; Han and Beisi 2015). These shophouses face each other, with a street space of 2 to 4.5 meters wide (narrow to the north). It forms a road corridor that accommodates various residential community activities (figure 3).
the old wooden houses' village architecture (Pratiwo 2010). The informal Chinese community street space use is the forerunner to the success of economic activity on Gang Baru street. The Chinese traders started their business by opening a shop on the front porch of the house oriented directly to the street. Over time, market demand and the need for trade space has increased, making the street space to be used as an extension of the shop. This practice denotes the shops' activity of informally claiming and privatizing the Gang Baru street use as a public space (Madanipour 2010).

Gang Baru street is located on the edge of the Chinatown area close to the Johar Market trading center (the regional market of Semarang City). The large number of immigrant traders that saw the potential for crowds in this area caused them to open businesses in the street. As a result, the Gang Baru street activities, which initially comprises only a few shops, now accommodate various commodities supporting the community market needs. Furthermore, the Gang Baru commodity quality increases the frequency of market visits by Chinatown residents and foreigners as a tourism potential (Teviningrum 2020). The street space use by economic activity shows regional dependence. The market activity attracts the emergence of formal and informal businesses that take advantage of the crowd as a profitable economic opportunity.

This market accommodates formal traders living in Gang Baru shophouses and immigrant traders (street vendors). The shop owner's merchandise is put on the terraces, while the street vendors' goods are under temporary tarps with tables, carts, and baskets scattered in front of the shop to the middle of the street space (figure 5). Currently, street space is already dependent on traditional market activities that have lasted for decades. Streets originally designated as formal transportation access infrastructure have been commodified by traditional market activities. As a result, access is limited to pedestrians, cyclists, and motorcycles. Moreover, the transportation movement is in conflict with the pedestrian shoppers. Drivers move slowly while waiting in line because they have to be careful of the crowds' buying and selling activities.

Figure 4. The situation of the traditional market activity in the Gang Baru street

During the market activity, the shop owners were not disturbed by street vendors located on the overhang (front porch) of the shop (figure 6). Street as a trading space is a communal space
(Murtini and Wahyuningrum 2017). This complementary agreement between traders lasts for generations. Additionally, the mutually beneficial tolerance between traders in selling blends the market (Setiawan 2012). The available commodities complement each other to answer customer needs. Although it looks untidy physically, buying and selling interactions enliven the market atmosphere.

Figure 6. Merchandise was placed on the storefront foyer

When the traditional market activity closes at noon, the street is used as transportation access for settlements. However, the former traditional market activities by street vendors are still visible. Also, the selling facilities, including piles of trading platforms, benches, tarpaulin structures, and umbrellas, are left in the street space to enable newcomers to open the base the next day (figures 7 and 8). This causes concern for street users, especially shophouse residents with private cars since they cannot pass through or park freely.

The combination of formal and informal practices with various interests indicates that street space use has been privatized and commodified by traditional market activities.

Figure 7. Gang Baru street aftermarket at noon

Figure 8. The residential situation on Gang Baru street at night
Actors of activities on Gang Baru street

The role combination between these formal-informal practices is grouped according to the Gang Baru street space use actors. Tables 3 and 4 show the groups of activity actors by the local community based on active and passive roles in street space use (Alca’ntara De Vasconcellos 2004).

Table 3. Group of activity actors on Gang Baru street in the morning and afternoon (traditional market residential and trading activities)

| Role category                  | Actors                                                                 |
|--------------------------------|------------------------------------------------------------------------|
| Non-mechanical and active      | Customer                                                               |
| Non-mechanical and passive     | Unloading porters, Merchandise supplier                                |
| Mechanical and active          | Carrying service, Street performer, Pedestrian (passersby), Traveling merchant, Dustman, Market levy collector |
| Non-mechanical and passive (static) | Residential guest, Shop merchant, Migrant traders/street vendors, Street performer |
| Mechanical and active          | Cyclist, Private motorbike rider, Motorcyclist online, Rickshaw driver |
| Special roles (certain conditions) | Police (monitoring protocol health during a pandemic)                     |
| Indirect regulation and planning | Parking officers, Factory/wholesaler/distributor industry related |

Table 4. Group of activity actors on Gang Baru street during the day and night (residential activities)

| Role category                  | Actors                                                                 |
|--------------------------------|------------------------------------------------------------------------|
| Non-mechanical and active      | Residential guest, Shophouse                                           |
| Non-mechanical and passive (static) | Residential guest                                                        |
| Mechanical and active          | Cyclist, Private motorbike rider, Motorcyclist online, Rickshaw driver, Private car driver, Car driver online |
| Special roles (certain conditions) | Police (supervision of health protocols during the pandemic)            |

This role group analysis represents the differences in the diversity of activity actors in the Gang Baru Street space use. The formal activities as active mechanical role competes with the non-mechanical role of informal trading activities.

Fragmentation classification of bottom-up practices on Gang Baru street

The role shift of the public street by privatizing informal trading activities has caused street space to be commodified. The results are supported by the combination of formal-informal roles that show differences in street space use. These various actors show the use of segmented street space according to the interests of each activity. In this regard, community activities as space users are considered bottom-up practices that respond to top-down practices that accommodate street space. Based on the activities' different interests of the activities, it causes fragmentation of Gang Baru street space use.

Table 5 describes the segmentation character of community activities in response to the street as public spaces use. This description is a reference in classifying bottom-up activities to represent the Gang Baru street space use fragmentation.

Table 5. Bottom-up practice classification reference on Gang Baru street

| Activity performer              | Quadrant classification suitability |
|--------------------------------|------------------------------------|
| Quadrant A: participatory-organization |
| Online car and motorcycle rider | The activity actors use Gang Baru street fit with the role of ‘by us’ mentality to accommodate access for building functions in response to the street role discipline ('by us' mentality) to accommodate access for building functions. |
| Private car and motorbike riders | The government's planned transportation infrastructure. |
| Cyclist                         | The government's planned transportation infrastructure. |
| Rickshaw driver                 | The government's planned transportation infrastructure. |
| Market levy collector           | The government's planned transportation infrastructure. |
| Dustman                         | The government's planned transportation infrastructure. |
| Quadrant B: spontaneous-participatory behavior |
| Residential guest               | The classification of activity participation to the formal role of Gang Baru street (the "by us" mentality) is shown in the use of the street as supporting access for shophouses. The character of street users is spontaneously expressed through a "for us" mentality which accepts the diversity of the street roles as long as their use supports the interests of each actor related |
| Resident                        | The classification of activity participation to the formal role of Gang Baru street (the "by us" mentality) is shown in the use of the street as supporting access for shophouses. The character of street users is spontaneously expressed through a "for us" mentality which accepts the diversity of the street roles as long as their use supports the interests of each actor related |
| Shop merchant                   | The classification of activity participation to the formal role of Gang Baru street (the "by us" mentality) is shown in the use of the street as supporting access for shophouses. The character of street users is spontaneously expressed through a "for us" mentality which accepts the diversity of the street roles as long as their use supports the interests of each actor related |
| Customer                        | The classification of activity participation to the formal role of Gang Baru street (the "by us" mentality) is shown in the use of the street as supporting access for shophouses. The character of street users is spontaneously expressed through a "for us" mentality which accepts the diversity of the street roles as long as their use supports the interests of each actor related |
| Goods supplier                  | The classification of activity participation to the formal role of Gang Baru street (the "by us" mentality) is shown in the use of the street as supporting access for shophouses. The character of street users is spontaneously expressed through a "for us" mentality which accepts the diversity of the street roles as long as their use supports the interests of each actor related |
| Pedestrian (passersby)          | The classification of activity participation to the formal role of Gang Baru street (the "by us" mentality) is shown in the use of the street as supporting access for shophouses. The character of street users is spontaneously expressed through a "for us" mentality which accepts the diversity of the street roles as long as their use supports the interests of each actor related |
Activity performer | Quadrant classification suitability
--- | ---
Migrant traders/street vendors | Quadrant C: organization-antagonist
Goods loading service |
Carrying service |
Quadrant C: organization-antagonist
The actor of activities in this quadrant also supports the street access role for the trading interests of the Gang Baru market (the “for us” mentality), but with more decisive and bold actions by privatizing street space for the benefit of economic actor group. The antagonistic action of the immigrant economic groups towards this street takes advantage of the existing economic opportunities, taking them in front of shops, on the side, and in the middle of the street as stalls for trading (the “up to us” mentality). As a result, the street narrowed by trading activities has created opportunities for economic groups offering goods loading services for shops and street vendors and carrying services to avail shopping goods to market customers.

Quadrant D: spontaneous-antagonist behavior
Street performer |
Traveling merchant |
Figure 9 shows the bottom-up practice classification results based on the analysis of the combination of the roles (tables 3 and 4) that fragments Gang Baru street space use.

Figure 9. Fragmentation classification of Gang Baru street use
Conclusion

The diverse bottom-up activities on Gang Baru Street cause the top-down strategy of using the street as a transportation infrastructure to be commodified. The bottom-up actors are seen in various informal activities that privatize street space for economic interests, such as traditional markets. The privatization and commodification of the role represent fragmentation in the Gang Baru street space use.

Informal activities as bottom-up practice continue to create economic opportunities. Moreover, informal community activities represent diverse groups and community interests that seek the most appropriate identity in responding to the formal street space use intention. The description based on combination background and role interests resulted in a complementary dialogue among street space users. Subsequently, the final synthesis is a bottom-up practice classification representing the fragmented street space use. As a traditional market, street use fragmentation is only possible due to the provision of formal activities of street space responded to by informal community activities. This is an effort to adapt to the opportunities for an economically growing Chinatown area.

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Author(s) contribution
Christin Purnamasari Nusaputra contributed to the research concepts preparation, methodologies, investigations, data analysis, visualization, articles drafting and revisions. Yohanes Basuki Dwisusanto contribute to the research concepts preparation and literature reviews, data analysis, of article drafts preparation and validation.