Community-based behaviour towards Affordances in Conservation of Hanoi Old Quarter in the Vietnam context

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Abstract. The 36 Old Street Quarter is a downtown area of Hanoi City, which has over 1000 years old and contains such traces of history and architecture. The grid structure gives it a significant character that is a part of the local heritage facing phenomenon of replacing settings of ancient spaces, stoning the streets and concretizing old buildings due to anti-conservative interplay from its users. Therefore, this paper examines the user’s behaviour in optimizing different settings of Hanoi Old Quarter (HOQ) towards conservation efforts. Theoretically, the research was conducted by making use of ‘affordances’ terminology of Gibson (1986/1979) to understand interactions between the spatial settings and its user. Methodologically, the purposeful method of local people and layout-based sketch of the blocks, and analysed images of outdoor and shared places have been employed for three survey sites respectively. The results of community-based behaviours, its patterns and ‘verb-ability’ are fundamental factor to develop ground-up programs on urban and architectural conservation in the Vietnam’s contextualisation.

Keywords: affordances, community-based behaviour, behaviour pattern, old quarter

1. An updated conservation trend in Vietnam
Locally, the concept of conservation is learned from the Soviet Union in the 1980s. More than last 20 years, the bottom-up approach had been practiced by communities to repair and replace damaged wooden structures of the communal houses, the pagodas and temples. At first, early conservation in Vietnam was described as ‘patchy repairs’ [1], using folk- traditional construction ways as what handed over from previous carpenters and the building proprietors. It shows that ‘thước tầm ’ [2], a bamboo ruler made from finger or hand-span principles of the house owner, was the most important things in constructing and repairing old houses. No body, without the ruler, is unable to (re)produce wooden elements when repairing the housing structure (replacement) and attachments.

In recent years, international organizations such as JICA (Japan), SIDA (Sweden) and research institutions like Waseda and Tokyo Universities from Japan, Toulouse from France, Tongji University from China, shared different behavioural ways to the local stakeholders on how to preserve national heritages and old downtowns in Hanoi City and the provinces (Bac Ninh, Thua Thien Hue, Quang Nam). However, the preservation techniques adopted from the West seemed not to be successfully applicable to the present circumstance and local context, the heritage’s user and the urban manager. The heritage built in Vietnam with the characteristic of ‘tropical-vernacular’ styles normally was small scale-
constructions. Many of them were made with local materials and methods. In fact, Western technical methods successfully conserving huge stone structure are not utilized in Vietnam context. One example showed reproducible methods of restoring monuments had been applied for three tube- houses in nearly twenty years from 1986 in HOQ [3]. Moreover, restoration and conservation likely stopped as is the case of the museums: communal house at no. 58 Hang Dao; tube-house at no. 87 Ma May as soon as international support and assistance came to an end. During the period 2008-2015, there were a number of relics taken into conservation and restoration such as temples (Bach Ma, Quan De), communal houses (Nam Huong, Yen Thai, Kim Ngan), pagodas (Ly Quoc Su, Ba Da) and the old housing rows along Ta Hien street. In addition, the walking street was initiated from on Hang Dao and Dong Xuan streets in 2004 and extended widely to Hang Buom, Ma May, Ta Hien, Hang Giay, Luong Ngoc Quyen, Dao Duy Tu streets in 2014; and surroundings of Hoan Kiem lake in 2016 respectively [4]. The upgrading program of improving images, quality of 79 streets also is in progress and being completed in 2020 [5].

So far, Vietnam is still seeking better practice on preserving HOQ and targeted groups of objects more effectively. From my view, the main conservation access seemed to be affected by construction planning and urban design, which was critical to urban conservation as laid down in the Cultural Heritage Law revised in 2013 and its recent policies (decrees: no.109/2017/ND-CP, dated 10th November 2017; no.142/2018/ND-CP, dated 09th October 2018). Consequently, no successful projects on the conservation of HOQ can be found, except for Hoi An case until now.

2. Hanoi Old Quarter at present
HOQ has more than 80 blocks [6] with street-networks of traditional professions, which formed ‘islands’ having different features, typologies over development periods [7]. Block fabric was structured by internal divisions and historic buildings and tube-houses that are traced back to the traditional rural house [8,9,10]. These residential blocks are the living bodies of the Quarter as which we can see vibrancy and social activities expressing its heritage environment-user relations.

No statistical data about the number of constructions demolished and spaces distorted from unsuitable perceptions and actions can be found. Generally, the material environment of HOQ is now being made better, but still chaotic and looks like a slum, especially blocks’ internal cores. However, phenomenon of collapsing old housing building is happened unforeseeably (for instance: the street house no.56 Hang Bong street felt down in 1st July 2019 due to newly added advertising board and others) [11].

This basically shows residential perception and attitude about the area and their need to modify functional spaces and relevant settings to improve the quality of life. For these perceptions, quality of urban fabric and vernacular architecture, the community’s involvement is questionable if it keeps such kinds of behaviour to the valuable heritages as they act today. As a matter of fact, to restore and protect the heritages’ authenticity, the residents prefer plans designed to upgrade physical spaces and constructions in association with replacements because of physically deteriorating buildings as they have been facing serious threats and their basic needs in living conditions have not been met.

Therefore, community participation is foreseeably a key to the preserve the outdoor and shared spaces as well as the living traditions [12] because the community is deeply attached to the functional meanings of the environmental settings and behavioural actions. To understand more indigenous community’s behaviour for settings of the heritage spaces, it may be argued that one of interactive terms-‘affordances’- is utilized appropriately in this case.

3. Affordance approaches
The term ‘Affordances’ in the case of ecological environment-coined by Gibson [13], focused the interrelations between two components of the world environment and humans. Similarly, this term implies that any environment contributes to interaction [15] among observers, users and their ecological environment. In fact, different places give different chances to receivers at different levels of functional significance, and this was termed as affordances of places [16]. Perceiving an affordance detects an
environmental property that provides chances for action and that is specified in an ambient array of energy available to the perceiver [14].

Next, Turner (2005) [17] showed basic and complex affordances in the living environment. In contrast, Norman (1988) [18] defined complex affordances as allowing people to know what kind of actions could be carried out for an object and how to do them upon ‘familiarity’ of the users with substance, surface layout, objects from ‘ideal phenomenon’ [17].

According to reviewed affordances, the potential affordances in conservation was initiated [19] to figure out environmental potentialities providing chances to user and; user’s possibilities to respond to such potentialities in the particular environment with heritage characteristics. It possibly encourages certain kinds of affordance to ensure community involvement in successfully retaining architectural and urban heritage value. Moreover, Stephen A H and Najmeh H (2017) [20] showed the nature of affordances and use of this concept after having studied series of previous researches and works are in newer forms and contexts today. Therefore, ‘affordances’ of heritage environment [19], developed from 2007 to 2009, shows that it evaluates the environmental value and behavior of the users in response to the value perceived in urban environmental planning and design. By having applied these affordances into heritage environment of HOQ, there are findings summarized particularly as below.

4. The Research Findings
Three sites, smallest scale block (0.4 hectares) bounded by streets such as Hang Dao, Gia Ngue, Dinh Liet and Cau Go; medium scale block (0.9 hectares) surrounded by streets of Luong Van Can, Hang Bo, Hang Dao and Hang Gai; and largest scale block (1.18ha) formed by streets of Ma May, Hang Bac, Luong Ngoc Quyen, Ta Hien, are carefully selected to survey outdoor and indoor environments, use layout-based sketch (16 drawings), semi-structured (50 people at every block) and in-depth interviews (31 representatives) for particular user-groups. Collected data was analysed by SPSS, Excel software to interpret functional properties of the physical spaces and others.

![Figure 1. An example of behavioural actions’ distribution in the largest block (no.3).](image)

Source: the Author’s findings (updated 2019).
4.1. Behavioural phenomenon and its effects
The environment built in HOQ is adjusted over the periods due to different impacts from the user’s behavior, directly and indirectly, to the urban structure. Nevertheless, human-environment interrelations in this environment are taken into account by those, whom clearly perceive a particular merit in using specific properties to satisfy daily purposes. Two dweller-groups in HOQ, the original residents of Hanoi, or the Hanoians as often identified and the immigrants or non-residents have been coming from other provinces. Thus, the local cultural behavior on the surrounding physical settings has become mixed and more complicated multi-dimensionally.

4.2. Hanoian’s behaviours towards significant properties of the built heritage
From those analyses, people and families that lived before 1954 in downtown Hanoi and were affected by environmental changes since then are considerable as ‘Hanoians’. In terms of society, each political period certainly impacted living standards, thoughts and culture of Hanoians, so that the several cultural characteristics that remain intact till today are able to be recognized as ‘pure’ traditions inherited selectively.

Under the social rules during the feudal period, Hanoians’ salient traditional culture was shaped by the principle of ‘Unity and Interdependence’ [21]. This one came first into being in merchant streets and guilds, and in groups of artisans and craftsmen who defended and assisted one another in all circumstances. To strengthen their own guilds, get used to local culture and increase resources via the sharing of funds and materials, even non-native residents who worked in HOQ also followed this rule of reciprocal assistance, among other things, with their efforts. The Hanoians always strongly abide by the tradition of ‘When drinking water, remember its source’ like other Vietnamese. They jointly and positively worshipped their respective tutelary gods in such communal houses (such as the tutelary God of Luong Ngoc village; To Lich temple; Ngu Giap communal house) within the HOQ.

4.3. The behavioural changes in Hanoi Old Quarter’s environment
Nowadays, expanding business activities has required the tube-houses and blocks to be merged or separated physically. The record figured out the deepest of the tube-houses had been commonly owned by richest Vietnamese and Chinese traders. The depth of a tube-house was historically shaped by encroaching on the natural back-pond and vacant areas in the central locations of existing blocks.

4.3.1. ‘Infill’ process: The development of HOQ in the past indicated a residential block was created by the unlimited prolongation of houses from the street to the rear. This inward extension converted outdoor surroundings and into indoor space to serve living and working purposes; the latter saw more immigrants (traders, craftsmen, relatives) from the same settlement. There was the case with all the gold and silver merchants, who were from Dong Sam village. The scale of the residential and working spaces corresponded to the financial wealth of the users. Moreover, the richest traders’ houses [22] still kept traditional products and brand names as seen today.

4.3.2. Self-controlled extension: the ‘private property’ notion became unacceptable when the liberation of Hanoi and North Vietnam was officially announced in 1954. This notion was removed by using the ‘ownership of the whole people’ later. After that the second wave of migrants moved into lawfully available housing space (as considerably as work-unit ownership houses provided by the Government) or shared privately-owned houses. Almost all closed spaces and finishes in the privately owned houses were, in one hand, handed over to the in-migrating State employees. On the other hand, the owners and their families were shifted in one or two rooms of each house. The remaining space (inner courtyards, toilet, kitchen and corridor) was utilized by all the inhabitants.

After the renovation policy and economic growth, the reconstruction phenomenon started by the end of the 1980s, expanding housing for business purposes and improving living space were the need based on individual recognition of opportunity to extend spaces to user. This process would go forward till there are no more vacant areas for any more additions at the rear. The adaptive use of physically existing
surroundings is implemented by means of simple attachments and additions to the original structures in the urban context.

At present, housing demand of the younger generation is not yet acute, the basic fabric of the Quarter could still be maintained. Generally, its authenticity has been kept with added items and architectural objects and this can be aware as a positive behaviour trend, the so-called ‘self-controlled extension’ based on graspable opportunities and current Vietnamese social rules (mutual affection and sharing) in the developmental process.

4.3.3. Unmanageable crowding building: The later stage comes when much reduced land availability can no longer allow further extension as was previously the case. Then, flexibility in behaviour appears and rapidly spreads through the blocks. Taking into account the property and infrastructural overloads, people resort to spatial forms that adapt traditional layouts as an attachment process, the so-called ‘unmanageable crowding action’ of persons who try to overcome difficulties in the use of inner spaces from the second layer onwards. By applying this behavioural action, various sub-environmental structures and settings are modernized; as well as ancient components are remodelled to give more privacy.

Crowding-building behaviour is definitely reflecting user’s perception of certain opportunities for (i) getting economic benefit from rental; (ii) improving living standards faster and quite importantly, reducing the number of degraded buildings; (3) restoring the image of the well-organized ancient quarter. But this movement also threatens the skyline, street front and others due to the large size of the building, its mass and bulk, shape and height; the modern architecture or materials that are not in harmony with the present landscapes.

5. Local behaviour towards the places’ significant properties through social phenomena
Exploring how the places are used and shaped means focusing on users’ abilities or effectiveness to respond to the properties as what they perceived. The effectiveness would be obtained when an individual interacts with a place. For example, a late Hanoian uses the inherited kitchen appropriately and similarly to what his/her ancestor had been exploited to optimize internal function. Observation points out a variety of social activities depending on spatial forms and present users. Thus, this presents major social action-patterns impacting physical environments, its elements of HOQ recorded in the below places.

5.1. In the outdoor environments (these photos taken by the author, 2009-now)

**Figure 2.** Social contact relates to interpersonal interaction.

**Figure 3.** Business transaction at places.

**Figure 4.** Outward decentralizing trade activity on the street’s surfaces.
Figure 5. State behavior to the built heritages is positive action for invaluable buildings.

Figure 6. Parking action on street and pavement surfaces.

Figure 7. Temporary occupation action concerns eating, drinking or mobile shops.

5.2. In the shared environments (these photos taken by the author, 2009-now)

Figure 8. In-depth action in corridor, public places.

Figure 9. Storage action at public places.

Figure 10. Rural village-action inherited from ancient, outlying hamlets and communes and helped retain the functional settings for the Hanoian lifestyle.

Figure 11. Lifestyle and ethnic pattern is structured around multi-generation families sharing the spatial components.

Figure 12. Managerial articulation behavior pattern is the sharing and governing of narrow spaces different times.

Figure 13. Pedestrian action in the Ancient Quarter.
Through these patterns, the user reflects abilities in using those settings towards positive affordances, which support conservation actions in reality.

6. Conclusions
This study explored the significant properties of HOQ’s environment over the periods. On one hand, it provides the blocks’ transition through the developmental history in terms of tangible and intangible value. Those models appear to confirm the community’s behaviour patterns, which are able to rule physical changes of public and shared places towards preservation and rehabilitation of the built heritages.

From the behavioural analysis, there are a numerous group of unite-ability, repair-ability, modernize-ability found for street-façade at shops; maintain-ability, infill-ability of street façade for instance. Additionally, another ‘verb-abilities’ are maximize-ability, modernize-ability, signage place-ability, attach-ability, repair-ability of roof for shop (from level 1 to 3) distributed purposefully. These nouns are found between other local users with urban and architectural elements as well. From their possible interaction, one could identify meaningful street-patterns, which probably provide functional affordances for the particular places and their properties, particularly in the urban and architectural heritages.

In addition, it has identified behavioural patterns, the users’ abilities (verb-ability) potentially supporting affordances in conservation. Therefore, these classified behavioural abilities strongly provide feasible solutions to raise the place’s identity in the HOQ’s community-based conservation eventually.

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