

FACTORS AFFECTING THE VITALITY OF STREETS IN DOWNTOWN JOHOR BAHRU CITY

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ABSTRACT

Traditionally, the city center is the heart of the social and economic activities of a city is considered as the main source of labor and commerce. Downtown, continue to be the center of religion, culture, tourism, and many residents of the city's location along with social amenities and facilities such as parks, hospitals, schools, cinemas and museums. Cities all over the world are rediscovering their public spaces and a general awareness has been awakened regarding the need for dignified, high quality city environments for people. Vitality is a major characteristic in public spaces and especially streets to attract more people. To have a lively area we need some elements to create an environment suitable for all ages and races to come, walk, sit, gather and spare time without force. Johor Bahru city is the fast developing and changing which attracts many users and tourists every day especially in the city center. The study established on the effective parameters of vitality in streets as a prerequisite to create a livable urban environment. The study discusses the essential components of vitality, its criteria, its determinants and finding the most effective parameters of street vitality in Johor Bahru city center. The study is limited to the functional and physical character of the street and different criteria relating to the activities and behavior of street users.

KEYWORDS: The vitality of streets; Public urban spaces; proper environment

The man and the environment in which he lives are inseparable from each other. This environment is based on the principle that it should be in addition to meet the needs of citizens, as well as space for the continuation of the collective life as well as survival and physical presence to the account.

Vitality is one of the basic requirements for the city that becomes more important with the development of the process of urbanization and social pathologies. Vitality means the presence and activity of the people in a space, the more human presence in an urban area is, the more urban space would be playful. With regard to the importance of this sense in upgrading the quality of the space, this research examines the concept of vitality and the factors affecting it. The research is in line with the following two main question answering for that are as follows:

- What are the parameters affecting the vitality of streets?
- Which parameter on x street vitality than the rest of the space is the impact?

This study investigates the effective parameter of street vitality in Johor Bahru city center by gathering different parameters that affect the street vitality according to different scholars, picking the most mentioned ones and analyzing each of them in the area.

The study specifically explores the functional and physical aspects those contribute to vitality. In order to achieve these purposes, this chapter discusses the background of study and statement of the problem. It also covers the objectives and research questions of the study.

METHODOLOGY

Today, friendly city centers are subjected and discussed by many scholars. Therefore, liveliness besides diversity is mentioned as the important issues related to these subjects (Gehl and Purdela Sitaru 1994). Streets contain people and their activities. Based on public spaces, liveliness is entirely associated with people and activities (Montgomery 1995). In other words, liveliness refers to how busy the public spaces are (Gülden Demet and GİRİTLİOĞLU 2008). There are three types of activities occur in public places. The first type is necessary activity, which people have to do them regardless of environment. The second type is optional activities; those activities that people are attracted to do them when the conditions are charming. The last type is social activities; which is based on the presence of others. In a good city, which has lively streets, large amount of optional activities and people are visible and at the same time people are experiencing these activities and also each other's. This study attempts to identify the characteristics

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as components of those contribute to the (vitality) liveliness of street environment in Johor Bahru city center, especially, those that center for static activities.

BACKGROUND INVESTIGATIONS

In this research, the most mentioned parameters by great scholars discussed to figure out which of the variables are more important and effective for people to come to the area and spare time there. Therefore, according to the different parameters of street vitality which is discussed here, this research presents a realistic answer to the central research question about the Functional components and characteristics contribute to vitality. In a vibrant environment, various activities take place on street, which is one of the most significant physical spatial elements of any city. A lively street is defined as a street with the existence of people engaged in a variety of stationary (the key characteristic of activity) and sustained activities, particularly those activities that are social in nature (Blangy and Mehta 2006).

The street environment has a large role in identifying the city character; high quality street environments will create livable cities. Streets are places where informal activities take place along with the formal ones. Formal activities take place within the buildings of both side of the street space; meanwhile informal activities take place in between the buildings. As a manifestation of street culture, informal human activities take most part of the street spaces in between the physical street walls on both sides of the street space.

Many of architectural, urban design and planning solutions established priorities for people and their

activities in street. Their interventions were to ensure that streets would be successfully functioning or “lively” as “places of interaction”, “living spaces”, etc. However, the solutions arrived at for integration of pedestrians “static activities” such as sitting, standing, chatting and browsing, compared with their dynamic movement were theoretically and empirically limited. In particular, an operational solution for balancing the use of streets for both static and dynamic activities has been unattainable (Jacobs and Appleyard 1987). While many streets have been much used for static activities and conducive to people sitting, waiting and meeting other people, others have much less so. Even in a highly dense shopping or commercial area, some streets have still failed to attract such activities. This is still a problem pertinent to urban design practice (Whyte 1980).

RESEARCH SCOPE

Jalan Wong Ah Fook is the main street through Johor Bahru city. It has high-rise office buildings and shopping malls next to old shop houses. It is located in the south of Johor Bahru city. The street is situated in the city center, some of prominent building of Johor Bahru are located along and surrounding this street, including City Square, public Bank, Takaful IKHLAS, Plaza SENI, and CAPACT Hotel. Street is the center of commerce of the city. Most of the buildings along it have functions as commercial facilities. Petty traders display their array of wares along the some parts of street; selling everything from textiles to watches, clothes, shoes, handbags. Street has become a tourist destination to Singaporean to look for cheap goods.

Figure 1 and 2: Site location of Wong Ah Fook Street, Structure Plan of Johor Google satellite 2011

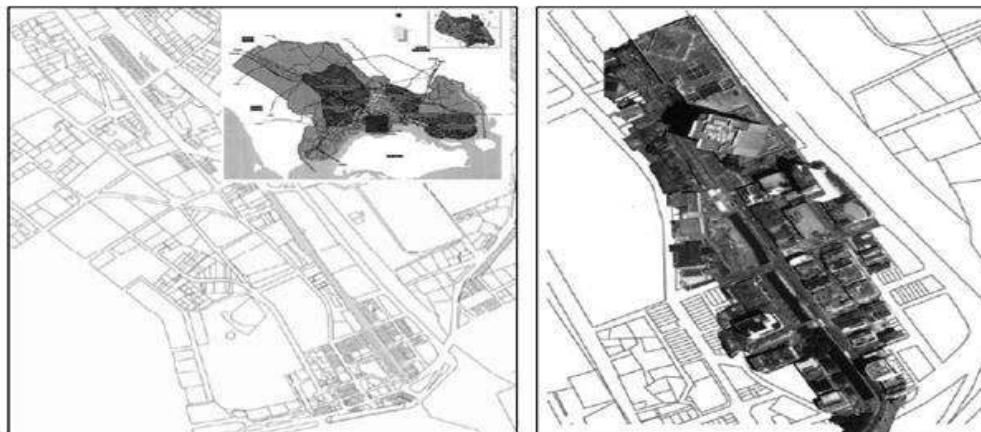


Figure 3: View of Wong Ah Street, view from the Crossing Bridge, Sep 2012



Much of the architectural heritage surviving in this city dates from the mid-19th century. Johor Bahru in fact means 'new Johor' in the Malay language and, as the capital of the Johor state, encapsulates 150 years of modernizing efforts under forward-looking and capable monarchs. Sultan Abu Bakar established Johor's constitution and developed a modern administrative system. He moved the state capital to Bandar Tanjung Puteri and renamed it Johor Bahru. Today the city's major architectural sights conspicuously display the legacy of this widely travelled ruler who was educated in the West. The Istana Garden plays host to the Istana Besar (Grand Palace), once the residence of the royal family and now home to the Abu Bakar Royal Museum.

PUBLIC SPACES AND URBAN AREAS AND THEIR FUNCTIONS

In Malaysia cities, streets, besides being a public space, they work as commerce place, there are stalls selling food, merchandise and clothes, there are also street painters and local art. They occupy part of sidewalks, corridors, and other public spaces along the street for trading. They are situated side by side with the formal activities in modern buildings, such as high-rise towers, department store and shopping complexes. These formal and informal street activities complement each other in the name of street life. There is distinctive feature of the Malaysian shopping landscape; the Night Market is weekly routine where street hawkers sell everything from household items to food. This phenomenon has given the streets the large role in the city.

Definition of the street

The most common meaning of street is a road in a town or village, which movement occurs between the houses and runs between two lines of houses or shops. The street can be taken as an enclosed, three dimensional space between two lines of adjacent buildings. The street is a place of identification; it is where you live. Addresses signify a building's position on the street. Streets are also public thoroughfares (Moughtin 2003). It's defined that streets as linear spaces lined by buildings, are found in settlements and used for circulation and sometimes for other activities (Rappaport 1987). Also, street is a delimited surface and part of an urban texture characterized by an extended area lined with buildings on either side (Rykwert 1986). Jacobs also recognized street a communication space, a public space, a place of social and commercial encounters and exchanges, a place to do business, a political space and a symbolic and ceremonial space in the city (Jacobs 1961). Streets are more or less narrow, linear spaces lined by buildings found in settlements and used for circulation and, sometimes, other activities (Barker and Schoggen 1973). The concept of the street could then be summarized as: Artery of traffic, Zone of major architectural display and Area of social intercourse.

The street is a relentlessly public environment, one of the few shared between all sorts of people. As a component of the built environment as ancient as human habitation, the street sustains a range of activities vital to civilization.

VITALITY OF URBAN SPACE

Vitality is defined as having physical and mental energy. Having that, people experience a sense of enthusiasm, aliveness and energy available to the self (Ryan and Frederick 1997). Vitality is thus associated with feelings of vigor (McNair, Lorr et al. 1971), activated positive affect (Watson, Clark et al. 1988), and calm energy, all constructs entailing positively toned, energized states. The concept of viability is concerned with long-term self-sufficiency, sustainability, adaptability, flexibility, the capacity to change, self-regeneration, responsibility and security.

Cities are like living organisms because they have periods of growth, stasis and decline. Urban viability is their capacity to adapt and respond to changing circumstances. Such adaptability and responsiveness is greater in those cities whose economic, social, cultural and environmental dimensions are evenly developed to a level of self-sustainability. The recognition of the breadth of these concepts would give city centers a greater pool of resources to draw on for self-renewal. Viability is thus not exclusively an economic concept. It encompasses also, for example, issues related to social cohesion, the environmental sustainability of the place and its cultural life and identity. It is concerned with the balanced development of all aspects of city life (Bianchini and Landry 1995). Vitality is essentially concerned with four features. They are:

- levels of activity - things going on;
- levels of use - participation;
- levels of interaction, communication, transaction and exchange;
- Levels of representation - how activity, use and interaction is projected outwards and discussed in the outside world.

On successful city streets, people must appear at different times. This is time considered on a small scale, at different times throughout the day (Jacobs 1961).

Vitalism a theory or miscellany of beliefs which contend that living processes are not to be explained in terms solely of material composition but that living things are animated by a vital principle such as life force (The Fontana Dictionary of Modern Thought). According to Charles Landry, Vitality is the raw power and energy of a city, which needs focusing, and directing towards a purpose for it to reach viability. Creativity is

the catalyst for vitality, which the creative process focuses. It becomes sustainable and viable through innovations, which are of long-term benefit to the city.

It is necessary to promote vitality in order to achieve viability. Vitality describes the mass of activities, which in and of them is not necessarily good or bad. Activity, use and interaction need to be focused towards a set of purposes, goals and objectives for them to have any substantial, positive impact. A socially vital and viable city would be characterized by low levels of deprivation, strong social cohesion, good communications and mobility between different social strata, civic pride and community spirit, tolerance of different lifestyles, harmonious race relations, and a vibrant civil society. Environmental viability and vitality concerns two distinct aspects. Ecological sustainability in relation to variables such as air and noise pollution, waste use and disposal, traffic congestion and green spaces. The second concerns the design aspects including variables such as legibility, sense of place, architectural distinctiveness, the linkages in design terms between different parts of the city, the quality of street lighting and how safe, friendly and psychologically approachable the urban environment is. Nine criteria help assess what a creatively vital and viable city is: Critical mass; diversity; accessibility; safety and security; identity and distinctiveness; innovativeness; linkage and synergy; competitiveness and organizational capacity.

Cities seem to be natural generators of diversity, but not universally so. Some places are lively and bustling while others remain inert. Jacobs attempted to diagnose this by identifying four key items she believed needed to be in place to actively generate diversity in an urban district:

- The district must serve more than one primary use, and preferably more than two.
- Most blocks must be short.
- Buildings must be mingled in their age, condition, and required economic yield.
- A dense concentration of people.

FACTORS AFFECTING THE VITALITY OF URBAN SPACES

Simple activities such as walking, talking and eating have taken to parks, restaurants and public buildings; this makes streets not to be lively spaces. Livable streets are needed to absorb people in all

situations to gather and have activity without any difficulty. In order to create an environment that is lively at first, the vitality and liveliness in urban Design should be identified and different criteria of it should be found out and the most effective parameters causing a street to have the quality of vitality is figured out.

Traffic has a critical effect on the street, (Rivers and Streatfield 1987). When planning public spaces the most important group are those people who visit the area because the public spaces are delightful and who use the public space for recreation, pleasure, exercise, play etc. To ensure that public spaces are lively and popular one must make sure that this group of people is given good conditions. This means that the public spaces must be highly attractive. Within this user group the focus can be on children, teenagers, adults or the elderly, and the public spaces can be designed to meet the different needs of different groups (Rivers and Streatfield 1987).

Vitality in the street

Lynch identifies vitality as one of the performance dimension of urban design and describes it as the degree to which the form of places supports the functions, biological requirements and capabilities of human beings. Vitality deals to the degree with which an urban space is socially successful.

In Montgomery's definition, it refers to the number of people in and around the street (pedestrian flows) across different times of the day and night, the uptake of facilities, the number of cultural events and celebrations over the year, the presence of an active street life, and generally the extent to which a place feels alive or lively (Montgomery 1998). Vitality in the urban realm is an important quality because it reduces crime, makes commercial interests more viable, increases passive enjoyment of streetscape - people watching, encourages social interaction and provides opportunities for cultural exchange. Consequently, vitality in urban space is regarded as an important measure of its health. Barry Sherman considers vitality as an indicator of successful urban places in his check list (Rosenfeld, Hintz et al. 1988). The findings of contemporary research indicate that vitality is a product of both the visual quality of the environment and the variety of the supported activities.

It is worthy to note that a more appropriate design of a public space satisfies more needs of the people. Meeting people's needs and adapting to their

activities is then a key objective of a good public space. Maslow pyramid of needs which is widely accepted now talks about the levels of needs starting from physical needs as the lowest level reaching more complex needs such as social need which includes safety, belonging needs and etc. In line with these, the following could be accepted as the most important social elements of the public realm:

- (i) Accessibility, (ii) Equity, and (iii) Safety (Jalaladdini and Oktay 2012).

The indicators of vitality in street

The performance indicators determined by ATCM can be classified as follows: demographic changes, employment and industrial structure related to the regional health; the number of visits to the city center, parking availability, public transportation, safety, diversity, public activities, street maintenance and cleanness, possibilities for special needs, and city centre management activity related to the city center development; and the retail trade vacancy rates, performance and sales related to the city center health (Beccerra, Sirisaengtaksin et al. 2000). URBED considers the pedestrian flows and property yields as the two most significant indicators, demand for shop units, change in the number and quality of major retailers, the relative use of space for different activities, security, vacancy rates for shop units, accessibility and vehicle parking facilities are deemed to have second-degree significance (Ravenscroft 2000).

The hierarchy of indicators was refined by the Department of Environment in 1996, and nine criteria were defined: diversity of uses, business representation and their tendencies to change representation, shop rents, proportion of vacant street level property, pedestrian flow, accessibility, user views and behavior, property trade value, and physical structure of the center. These indicators might be used to compare the centers, or to evaluate the possible effects of out-of-center developments (Ecology).

As it's been investigated, there are some parameters that affect the vitality and liveliness. It could be counted as Diversity, Security, Accessibility, Levels of activity, Flexibility, Amenity, Participation, Interaction, Representation, Sustainability, Adaptability, Capacity to change, Self-regeneration, Responsibility, Attraction, Critical, mass, sufficiency, Self-Identity &

distinctiveness, Innovativeness, Linkage & Synergy, Competitiveness and Organizational capacity which are important factors among all parameters which are able to influence people’s liveliness. But According to Bianchini and Landry, Montgomery, URBED, Department of Environment and Sherman theories; diversity, security, accessibility and activity have been repeated 3 times in their viewpoint and can be called as the most mentioned parameters. In order to study these four parameters just to get information that which parameter(s) have the most influence among the others, the set of questionnaire have been considered as it’s shown in appendix 1. It is necessary to be told here that it has been mentioned by many of researchers of a successful city where safety issues are one of the front line factors. The urge on safety aspect in the city center has long dated in history.

Wong Ah Fook Street represents a number of functions. The multi functions of Wong Ah Fook Street can be established in various aspects, including social, economic, cultural, as well as symbolic. These aspects are discussed in the next part.

Social Function / Street Activities

The character of social activities on Wong Ah Fook varies, depending on the time, the social activities become more active during the weekend and holidays times, while these activities become limited in the other weekdays. The social uses of Wong Ah Fook street have identified, as which are shown in Table 1 below.

Table 1: The social uses of Wong Ah Fook Street, Source: field survey (2011)

Social uses of Wong Ah Fook Street	
Activity	Dominancy
Waiting	More dominant
Eating	More dominant
Selling	More dominant
Strolling / window shopping	Dominant
Resting	Dominant
People watching	Less dominant
Telephones	Less dominant
Newspaper	Less dominant

The optional and the social activities are the important keys to street quality. In poor quality street spaces, one will only find necessary activities. In Good Street, one will find not only necessary activities but also a multitude of recreational and social activities. In streets, most of the social interactions take place in the pedestrian area. Among the three distinct categories of people activities: Necessary activities Optional activities (urban recreation) and Social activities.

Necessary activities

Going to school, waiting for the bus and going to work, these types of activities in Wong Ah Fook Street are clearer than others, because people are compelled to carry them out daily.

Figure 4 and 5: Necessary activities (At 9:00am going to school, going to work)



B. Optional activities (urban recreation)

Optional activities in the pedestrian area in the Wong Ah Fook street people use pedestrian area as a place to see

and to be seen. These activities are mostly in the western side of pedestrian path of street.

Figure 6 and 7: At 5:00pm.optional activities in the pedestrian area as a place to see and to be seen.



Social activities

Social activities in the pedestrian area; active and passive activities occur along pedestrian area in Wong Ah Fook street.

Figure 8 and 9: Social activities participation of people with others like watching, listening and conversing,



Analysis is on the behavioral study of Wong Ah Fook Street establishing the different types of activities taking place within it.

THE DIVERSITY OF LAND USES / VARIETY

A diverse social base implies a variegated and lively civil society and voluntary sector; comprising self-confident organizations likely to be more resilient and productive in times of economic and social stress. It also involves taking on board multiculturalism and interculturalism as positive forces in order to engender new ideas and fresh approaches. Environmental diversity involves topography such as landscapes and hills and also a concern assessing to what extent a city has made its history visible in its built form. An outlying area, for example, built in a short space of time in a particular period all in the same style can become monocultural, potentially dull and prone to vandalism and lack of respect. Diversity, in short, provides a rich menu of possibilities, which can trigger and stimulate a myriad combinations

leading to original strategic responses to urban problems. Without diversity, the range of options is more limited. Diversity has lots of meanings. According to the vitality of city center, diversity in building use and function are the most important elements causing liveliness and vitality in the environment; diversity of Wong Ah Fook Street is analyzed here.

Diversity in building use

According to Jacobs, "There are more contributors to the street, more and different participants, all of whom add interest. Different buildings can be designed for a mix of uses and destinations that attract mixes of people from all over a city or neighborhood, which therefore helps build community movies, different-sized stores, and libraries. Wong Ah Fook is one of the main streets of the city center; so different building uses can be found in the area such as Housing, Commercial, Administrative/office, Religious, Institutional, Recreation, Storage, Hospital and Petrol station. Respondents' short

answers about 4 criteria of diversity in this street are discussed.

QUESTIONNAIRE METHOD

In comparing with other data collection methods, survey questionnaire gives researchers high level of control while questions will be written down. Questionnaire method is a technique that is used by researchers to evaluate human perception. Gifford in 1997 claimed that survey questionnaire techniques are utilize to realize the opinion and idea of user by asking questions among enormous of residents to respond to questions due to context and field of study. In this study, a questionnaire survey was established to find residents' perception and satisfaction with functional and physical qualities of vitality. It is designed in three parts where in first part general questions such as gender and age will be asked. In the second part, an attempt was to find resident's aspects of vitality and its characteristics. In the third part, social qualities related to vitality and its attributes was examined.

CASE STUDY

Discussion about the case study chosen this research work and analyses data collected from the site visit through observation, supported by information from the questionnaire and behavioral observation studies in Wong Ah Fook Street in Johor Bahru City Center has

been considered here. Four criteria of vitality called diversity, activity; accessibility and security are analyzed to explore how they can effect on vitality of a street in city center. The first part of this chapter consists of the results' description of respondents' personal characteristics; this follows by the second part, which comprises the findings of respondents' choice about general questions, which consists of the reasons for coming to the selected area. The third part discusses the quality of different criteria in the area. Research was conducted between people in Wong Ah Fook Street, the researcher gave the rank to the all-ordinal options in order to simplify and unify the people perception from different qualities. Sample size is small and the number of respondents is not too large while 30 of residents answer questionnaire, which is distributed in the study area. According to the information obtained, the respondent's population and Ethnicity are all gathered as below:

Malaysians are the most generation among all races in this area. There are 14 out of 30 or 47% out of all. Chinese people are in the second place with 10 people and the percentage of 33, there are five Iranian that are 17% of the whole and 1 person in the category of other generations.

Correlation among effective elements such as Ethnicity, Age, Gender and etc. has been considered in accordance with the give table.

Table 2: Correlation between Ethnicity and other elements

Ethnicity		Malay	Iranian	Chinese	Others
Percentage among all races		47%	17%	33%	3%
Age	10-20	29%	0	10%	0
	21-35	57%	100%	80%	100%
	36-45	7%	0	0	0
	+46	7%	0	0	0
Gender	Male	29%	20%	70%	100%
	Female	71%	80%	30%	0
Academic level	Primary	29%	0	10%	0
	Secondary	29%	0	20%	100%
	College or university	42%	100%	70%	0
Frequency of visiting	Every day	58%	0	40%	100%
	Once a week	7%	20%	10%	0
	Twice a week	14%	0	0	0
	Once a month	14%	40%	30%	0
	Rarely	7%	40%	20%	0
Purpose of visiting	Working	57%	0	30%	100%
	Relaxing	29%	40%	10%	0
	Shopping	14%	60%	60%	0

As the table 2 shows, Malay people are the majority among all races in the area, 57 percent of them are in the ages between 21 to 35, this means that youngsters are the main visitors of the site, among genders; women visit the area more than men do. Nearly half of the Malay people are in the high academic level and more than half of the Malay visitors come to the area every day so the site is a routine and high demand destination for Malay people. In addition, the highest rate of working belongs to Malaysians, which more than half of them come to the area to work.

Among Chinese race, 80 percent of them are in the ages between 21 to 35 and 70 percent of the Chinese people in the area are men. 70 percent of Malay respondents are in high academic level; according to frequency of visiting the most percentage are 40, which belong to whom they come every day, and after it, 30 percent visit the site once a month.60 percent of Chinese

people come to the area in order to shop and 30 percent come to the area to work.

Among Iranians, 100 percent are in the ages between 21 to 35 and they are mostly female. According to academic status, all of them are in high academic level and they mostly come for shopping from commercial centers. Other races are too small to pay attention and can be ignored. It can be easily understood from the data that Malay young generation comes to Wong Ah Fook to work every day.

Gathered statistical information has been classified in some categories in this research such as: Respondent age, respondent gender, respondent academic level, Respondents frequency of visiting the site and Respondents Purpose of visiting the area. Also another set of questions was asked from the visitors who come to this street, their goals, and their motivations and so on. Results are assembled in Table 3.

Table 3: General questions and their level of effectiveness¹

General questions		Percentage		Level
1	People live in the area.	23%		Low
2	People come to visit commercial centers.	67%	62%	High
3	People come because of the restaurants.	57%		High
4	People come because of administrative buildings.	20%		Low
5	People come because of religious buildings.	37%		Medium
6	People come to visit cultural centers.	23%		Low
7	People come for the green area.	27%		Low
8	People come to see festivals and carnivals.	50%		Medium
9	People come to walk in the area.	53%	46%	High
10	People come to sit and watch people.	40%		Medium
11	People come because of its high safety.	29%		Low
12	People come to shop from hawkers.	43%		Medium
13	People come because of its good accessibility.	77%		High
14	People come because of people's attitude.	40%		Medium
15	People work in the area.	37%		Medium

¹ Levels of effectiveness are from the PhD thesis: *Appropriate urban public open space* by Dr Wan Zakri Abdullah

People visit the area mostly because of four elements that had the highest percentage among 15 general questions.

- The highest rate belongs to G13; they visit the area because of its good accessibility.
- Second place belongs to G2; people in the site come to the area in the reason of its commercial centers.
- Third place is for G3; the restaurants of the area attract so many people to the site, respondents answered they come to eat in the area.
- Fourth place is for G9; many people come to walk in Jalan Fook.

Some questions in the previous table are according to Functional qualities associated with vitality like:

- G9 and G10: High rate of respondents visit the area in order to walk in the area, watch people and have communication.

Some of questions in the previous table are according to Physical qualities associated with vitality like:

- G2 and G3: High rate of respondents comes to the area in order to visit the commercial centers and eat in the variety of restaurants and food courts.

Analysis shows that the average number of people who visit this street is according to the table below.

Table 4: Mean numbers of general questions' responses

Question Numbers	G1	G2	G3	G4	G5	G6	G7	G8
Mean	1.7667	1.3333	1.4667	2.5667	1.7000	1.9333	1.8000	1.5667

G9	G10	G11	G12	G13	G14	G15
1.6333	1.7667	1.8667	1.6667	1.2667	1.7000	1.6333

The least MEAN among all these 15 answers belongs to:

- G13:1.26: Respondents are satisfied with the accessibility of this street.
- G2:1.33: Respondents come to the area to visit commercial centers.
- G3:1.46: Respondents come to the area to eat in its restaurants.
- G8:1.56: Respondents come to see festivals and carnivals.
- G9:1.63: Respondents like to walk in the area.
- People normally do these activities in Wong Ah Fook Street. The most MEAN among all these 15 answers belongs to:
- G4:2.56: Rarely the respondents come for administrative buildings.
- G6:1.93: Rarely the respondents come for cultural centers.
- G7:1.80: Rarely the respondents come for green area around this street.

People rarely do these activities in Wong Ah Fook Street. These results show that the accessibility, commercial functions of the street, eating-places and

different functions like watching fiestas and walking attract people to the street. In contrast, the physical elements as administrative and cultural buildings and green area do not absorb people properly to the site.

Positive answers for each question have been counted and analyzed by the use of its percentage among other elements; Percentages categorize in three levels:

1. Below 29, specified as low level, these elements can be ignored since the respondents do not mention them as a reason for coming to the area.
2. Between 30 and 50, specified as medium level, these elements can be neglected since the respondents do not mention them as a reason for coming to the area.
3. More than 51, specified as high level, these elements can be called the effective parameters among others causing people to visit the area.

Respondents short answers

Respondents short answers about 4 criteria of diversity, security, activity and accessibility in the street and the answers to all of these factors are collected in the Table 5.

Table 5: Respondents short answers about 4 criteria of diversity, security, activity and accessibility in the street

		Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree	Total
Diversity	D1: This area has different building uses like housing, commercial, administrative, etc	1	4	4	19	2	30
	Percentage	4%	13%	13%	63%	7%	100%
	D2: Here I can do my work, my recreation and my shopping at the same time.	3	3	5	15	4	30
	Percentage	10%	10%	17%	50%	13%	100%
Security	S1: I feel safe in this area	3	13	6	8	0	30
	Percentage	10%	43%	20%	27%	0	100%
	S2: There are guards in all hours of the day in this street to create safety.	4	11	9	5	1	30
	Percentage	13%	37%	30%	17%	3%	100%
Activity	A1: I can do any activity that I like in this area	2	6	11	11	0	30
	Percentage	6%	20%	37%	37%	0	100%
	A2: People do necessary activities like going to school or going to work in this street.	3	1	5	21	0	30
	Percentage	10%	3%	17%	70%	0	100%
	A3: People do optional activities like walking and jogging along the street.	4	5	6	13	2	30
	Percentage	13%	17%	20%	44%	6%	100%
	A4: People do social activities like gathering in this street.	3	4	9	14	0	30
	Percentage	10%	13%	30%	47%	0	100%
Accessibility	ACC1: This street has good accessibility from all of the streets in Johor Bahru	4	1	6	15	4	30
	Percentage	13%	3%	20%	50%	13%	100%
	ACC2: We can walk here from nearby easily.	3	4	3	19	1	30
	Percentage	10%	13%	10%	63%	3%	100%

Analysis of different criteria of vitality

Table 6: Mean of different criteria of vitality

Criteria	Diversity		Security	
	D1	D2	S1	S2
Mean	3.5667	3.4667	2.6333	2.6000

Criteria	Activity				Accessibility	
	A1	A2	A3	A4	ACC1	ACC2
Mean	3.0333	3.4667	3.1333	3.1333	3.4667	3.3667

The most MEAN belongs to:

1. Diversity; D1:3.56 and D2:3.46, Respondents

admitted that the area has all sorts of building uses and they can do different activities in the area at the

same time.

2. Accessibility; ACC1:3.46 and ACC2:3.36,
Correlation among different criteria:

Respondents are satisfied with the accessibility of Wong Ah Fook and good walkability of the area.

Table 7: Pearson Correlations among 4 criteria of vitality

Vitality Criteria	Diversity	Security	Activity	Accessibility
Diversity	1	.281	.646	.581
Security	.281	1	.432	.170
Activity	.646	.432	1	.655
Accessibility	.581	.170	.655	1

It should be noted that the meaningful correlation have to be near to 1.

- Diversity has correlation with:
 1. Activity: people satisfied with the diversity are also satisfied with the activity.
 2. Accessibility: people satisfied with the diversity are also satisfied with the accessibility.
- Security has correlation with:
 1. Activity: people satisfied with the security are also satisfied with the activity.
- Activity has correlation with:
 1. Diversity: people satisfied with the activity are also satisfied with the diversity.

2. Security: people satisfied with the activity are also satisfied with the security.
 3. Accessibility: people satisfied with the activity are also satisfied with the accessibility.
- Accessibility has correlation with:
 1. Diversity: people satisfied with the accessibility are also satisfied with the diversity.
 2. Activity: people satisfied with the accessibility are also satisfied with the activity.

CONCLUSION OF ANALYSIS

Different activities done by people in the area are categorized in the table below to identify the effectiveness of different parameters on the vitality of this street.

Table 8: Functions commonly done by people in the area

Common Functions done by the visitors		Criteria
Shopping and Eating	Visiting commercial centers	DIVERSITY
	Eating in various restaurants	
Recreation	Sitting, watching people, having communication	ACTIVITY
	Walking to/in the area	ACCESSIBILITY

People do so many activities in the area like shopping, eating and sitting that show the high quality of diversity of Wong Ah Fook Street and in all times of the day there are pedestrians around the area walking and enjoying their time showing the high quality of the accessibility of the area.

According to Bianchini and Landry (creative city), and Department of Environment (DoE) both diversity and accessibility are the effective parameters to have a livable area.

Franco Bianchini and Charles Landry in creative city have told that Vitality is essentially concerned with four features. They are:

Levels of activity - things going on Levels of use – participation

Levels of interaction, communication, transaction and exchange Levels of representation

The statistics, observation and questionnaire show that Jalan Wong Ah Fook represents levels of activity, levels of use, levels of interaction and communication and levels of representation so it is absolutely an area with the quality of vitality.

According to Jacobs “Safe and suitable accessibility brings vitality in city center”. Wong Ah

Fook is a street with high level of accessibility; surely, it can be an area with the quality of vitality.

In questionnaire, respondents were asked to answer an open question that they feel. The question was,

Table 9: Percentage of the effectiveness of different vitality criteria according to respondents

Criteria	Diversity	Security	Activity	Accessibility	Total
Number	13	2	11	4	30
Percent	43%	7%	37%	13%	100%

About 43 % of respondents answered that diversity is their reason for coming to the area because they can visit different shopping malls and stores, eat in the variety of restaurants and food courts and buy things like fruit, food and different merchandise from hawkers and vendors, also they can work in the area.

About 37% of respondents answered that activity is their reason for coming to the area because they can come to the area to walk, sit on the benches or food courts, smoke cigarettes, read newspapers and talk with their friends as long as they like, they come to Wong Ah Fook to relax and spare time in a public space.

Just 13% of the respondents believe that accessibility is the main reason for visiting Wong Ah Fook; they come to the site easily from far distances by car taxi or bus, they also walk through different streets around area.

Finally, 7% of the respondents visit the area because of its security, they believe it is a safe environment to walk and gather as a public space. Therefore, Diversity and Activity are the most effective parameters on street vitality of Wong Ah Fook.

The result of the study shows there are various factors that affect the street vitality in the city center of Johor Bahru. Questionnaire with the open questions from respondents and the answers describe the vitality from their own point of view. By following up the questionnaire with behavioral studies and other observations it can be found out that many of the received answers from the questionnaire, we reconfirmed with the behavioral studies and the other observations. The questions people were asked mainly touched what they think and how they feel. The majority or 62 percent of people visit the area to do shopping and eating in different restaurants (physical attributes of vitality), and their aim is relaxing with their family or friends and 46 percent of them come to walk around having communication in a

which one do you think is more effective on the vitality of Wong Ah Fook Street:

public space and doing social activities.(functional attributes of vitality)

Talking about the four mentioned criteria of vitality, about 43% of the respondents chose diversity as a critical element causing the area to be livable, 37% of them believes that activity attracts people to this street; they can do as many activities as they want in a same area. To make it short diversity and activity are the most effective parameters of the street vitality of Jalan Wong Ah Fook.

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