Criteria for the Classification of Purpose Built of Office Buildings in Malaysia

Yasmin Mohd Adnan
Md Nasir Daud
Ibrahim Mohd @ Ahmad
Aniza Abd Aziz
Centre for Studies of Urban and Regional Real Estate (SURE)
Faculty of the Built Environment
University of Malaya

Email:
yasmin_alambina@um.edu.my

ABSTRACT

Malaysia property market is deficient of key indicators to make an objective assessment of the market situations. In the effort to monitor the commercial property market performance, it would be useful to develop an indicator that will be useful for the construction of property indices. As such, to develop such indices for commercial properties, it is necessary to assess the performance of each office building through a classification framework. This paper highlights the identification of the criteria to be adopted in the classification of the purpose built office buildings in Malaysia. Through the investigation of the local and international practices as well as the literature on office building classification, a set of criteria was selected for local adoption. In arriving at the final set of criteria, a series of expert panel group discussion were held. This paper highlights the findings of the initial investigation of the identified criteria and the expert panel discussion held in an attempt to arrive at the final classification framework.

Keywords: Criteria, classification framework, office buildings

INTRODUCTION

The study to classify office buildings began as a government-funded initiative of the National Institute of Valuation, Malaysia in an attempt to assess the performances of office buildings in Malaysia. Generally office buildings present a multitude of features with varying qualities and at different locations to meet the objectives of the occupants. Thus there is the need to develop a workable and commonly accepted framework to classify office buildings in Malaysia. This can be achieved by identifying the criteria and sub-criteria that are necessary to arrive at the classification grading matrix.

The study has adopted a three-stage process for the development of the classification framework; comprising a comparative overview of the local practices, international practices and a series of expert focus group discussions.

As a result of the survey on the previous literature and the comparative overview of the local and international practices undertaken earlier, a list of criteria to classify purpose built office buildings (PBO) in Malaysia is identified. These criteria are then adopted in the panel discussions held with the various stakeholders in the Malaysian office market. The finalized

version of the grading matrix to be adopted is then subjected to further deliberation towards the development of an acceptable matrix in Malaysia.

The paper will discuss and highlight the criteria identified through the literature survey and previous/current local and international practices. It will also highlight the findings of the initial expert panel group discussions held in developing a suitable classification matrix.

CRITERIA TO CONSIDER FOR OFFICE CLASSIFICATION

In arriving at the classification framework, two main concerns have been identified. Firstly, what criteria are relevant and secondly, how to gather the identified criteria to form the classification framework desired for purpose-built offices in Malaysia. From a survey of the literature, various strategies for the investigation of the criteria emerged. Some of the major works have focused only on certain aspects of office quality criteria, leaving other researchers to deal with other criteria. Some researchers have dealt with the non-physical aspects which may include only the locational aspect of office preference, while others have given attention to economic or environmental considerations. Yet others have dealt with the issue by considering only the physical aspect. There are researchers who have looked at a combination of the different criteria, but this combination is rather limited. A summary of the earlier studies under the various categories is presented below:

Locational Attributes - highlights the following attributes: quietness of location; availability of parking spaces; distance to local public transportation; distance to long-distance public transportation; distance to city centre; distance to a bank, and distance to a post office (Bender *et al,* 2000). The results are location specific and not extendible to other markets. Another study highlights firms' choice of office which is contingent on size, business type and type the market they serve (Leishman and Watkins (2004)

Economic Attributes – revealed the differences in market performance according to the different characteristics of business service employment in geographically diverse areas thus affecting the demand for offices (Hamelink *et al* (2000). Another study showed rental patterns and growths in terms of clusters of regions (Jackson *et al*, 2005).

Physical Attributes - several studies have revealed the attributes pertaining to the physical aspects namely: Building quality index (BQI) based on six physical attributes of office building quality: functionality, services, access and circulation, presentation, management, and amenities (Ho *et al*, 2005); Environmental impact and overall sustainability (Sinou *et al*, 2006); Firms' choice of office – contingent on size, business type and the market they serve (Leishman *et al*, 2004); Parameters used: thermal comfort, air quality, office noise control, Sspatial comfort, privacy, lighting, building noise control, overall satisfaction, ability to do work (Leifer, 1998); Energy efficiency improvements (Wilkinson *et al*, 2006). The intelligent buildings are defined in a study into eight modules, i.e. (i) Environmental Friendliness (Health and energy conservation) – *Artificial Lighting, Cleaning, Daylighting, Energy Saving and conservation, Indoor Air Quality, Plumbing and Drainage;* (ii) Space Uitilisation and Flexibility – *False Ceiling, Floor Height, Paring and Public Transportation, Property Management, Raised Floor, Rise Space, Roof and Floor Loading, Shared Meeting and Conference services, Structural cabling;* (iii) Life Cycle Costing (Operations and maintenance) – *Asset and facilities auditing, Building automation, Fixture and furnishings, Maintenance management, Training;* (iv) Human Comfort – Domestic Hot water supply, Gas supply, HVAC; (v) Working Efficiency - After hour operation, Electrical services, High

speed data communication, internet gateway, Office automation, PABX, Satellite conferencing, Vertical transportation; (vi) Safety (Fire, Earthquake, disaster and structure etc. – Emergency escape, fire detection, fire fighting, public address, security control, structural monitoring; (vii) Culture – Trend logging and analysis, Building directory, Entertainment areas, Indoor touring guidance, Interior design, restaurants; (viii) Image of high technology – curtain wall, voice mail (So A.T.P, Wong A C W, Wong K-c (1999)

Matching Of Demand (User Requirements) To Supply (Building Provision) - various works have focused on user satisfaction and tenant retention based on the three (3) attributes mentioned earlier. The works revealed the following;

- Factors for tenant retention include adding amenities and meeting current tenants demand – flexibility, durability, daylight, views to nature and good indoor quality, safe work solutions (Babcock (2003))

- The way the space will impact the way they work, efficiency in structural orientation or organization, accommodate changes, and sustain growth. Disability and green design (from an architect point of view), qualities of buildings, flexibility and day light and indoor quality and comfort (Munroe, 2003)

- Real estate decision-making include Site Planning, Building Configuration and Building design, Workplace Infrastructure, Building Image and Amenities, Alternative Officing , Green Building (CBE)

- Tenant Satisfaction Study revealed the following factors for meeting demand- Location of premise, standard of premise and Value for money, Landlord & Agent communication, Contract detail (ease of contract alteration and problem resolution and lease flexibility (RICS Tenant Satisfaction Index, 2005) RICS Tenant Satisfaction Index, 2005)

- Building flexibility - Environment: Work style gives flexibility, Tenant objectives: Productivity and flexibility, employers are using employee-to-revenue-ratio as a measure of efficiency and a guideline for expansion. Changing the technology: Data networking demand for power, cooling, air quality, lighting becomes important. Sophisticated control of after-hours air-conditioning and lighting is value-added feature (Kohlhoff, 1994)

- Factors that occupants require include Customer requirements, Durability & Quality, Operation and maintenance factors, Environmental conditions, Business Aims (inc financial factors),Sustainability/environmental issue, Access factors, Health and safety factors, Amenities, Image Features that provide support for carrying out function/job effectively Psychological factors that support the culture of the organisation (BRE research project sponsored by DTI)

- Level of satisfaction derived from leased space - interior environment ranging from indoor air quality (IAQ), to power, elevators and restrooms, Utility cost, power capacity and availability of backup power, Unimportant by 10% of the respondents. Availability of chilled water, availability of daylight/green element and speed of elevators (Sullivan, 2006)

- Technology upgrades - Floor plate smaller than 18,000 sq ft is not regarded   as efficient for a flexible office layout, Just-in-time office concept; a more open plan with conference space and quiet rooms on a first-come-first-served basis. Dependable power supply, high tech spaces with communication line in place (Hansen, 1996)

- Variation of the physical/different attributes of office buildings in London - 39 design/quality factors (gathered through structured interviews with leading professionals from the architectural, construction and facilities consultancy in central London) provided by the buildings (Bottom *et al*, 1998).

CRITERIA UNDER CONSIDERATION BY LOCAL AND INTERNATIONAL ORGANISATIONS

All the above studies served to classify and elucidate the treatment of office quality determinants in the various context in which the studies were undertaken. They offer useful data for the study of office classification but on their own they do not provide for a complete framework. To provide a further in-depth understanding of the relevant criteria to be adopted, an investigation into the local and international practices was undertaken.

Various organizations locally and internationally have attempted to provide classification of the office buildings. In Malaysia, the City Hall of Kuala Lumpur in 1990 introduced a classification guideline that classifies offices into three categories based on 5-star, 4-star and 3-star ratings. The star ratings assigned to the buildings were based on two criteria namely the location of office buildings, and the facilities and services provided. This study provides a basis for the identification building criteria that be looked into in the classification of office buildings.

Rahim & Co Research (1992) prepared a guideline for the determination of office buildings for the purpose of forecasting the demand and supply trends from 1993 to 2007. Office buildings were again divided into three categories based on the star ratings of 5-star, 4-star and 3-star. The rating was based on two criteria - location and facilities provided. Based on these, a certain grade was assigned to each office building to determine its star rating.

Jones Lang Wotton (2001), on the other hand, has used a different approach in which it has classified buildings into Super Prime, Prime A, Prime B, Secondary A, Secondary B and Secondary C, which have their own scorings. To arrive at the score, a formatted marking system was adopted with weightages assigned to take into account the location, accessibility, physical features and building services. It has been observed that Henry Butcher (2001) has also classified buildings, but into grades of A+, A, B and C according to the scores collected from these buildings. The scoring has taken into account only the main building features with rating system assigned and later to be multiplied with a weightage score. Although the format is clear and easy to understand, the approach has not taken into account the design, building systems and services aspects.

Elsewhere, the Building Owners and Managers Association, USA (BOMA) has adopted a classification based on the subjective rating of buildings, which indicates the competitive ability of each building to attract similar tenants. A combination of factors including rents, building finishes, systems standards and efficiency, building amenities, location/accessibility and market perception are used as relative measures. Class 'A' building has been classified as the most prestigious building competing for premier office users with rents above average of

the area. Buildings have high quality standard finishes, state-of-the-art systems, exceptional accessibility and a definite presence. An attempt to classify office buildings in Moscow was made by Moscow Research Forum consisting of Colliers International, Jones Lang LaSalle, Noble Gibbons/CB Richard Ellis, Stiles & Riabokobylko/Cushman & Wakefield Healey & Baker in 2003. The criteria used are Building Systems, Building Structure, Location, Parking, Ownership and Property Management Services.

In Australia, the Property Council of Australia developed an office classification whereby premium office relates to property with the highest grade landmark office building located in major CBD markets, while others are graded into Grades A to D according to quality of space provided. The criteria used are a combination of quantitative as well as qualitative in nature. The building quality guide has provided a matrix for existing buildings and design specifications for new buildings. The criteria that were identified include environment, configuration, mechanical, tenant supplementary loop, building Intelligence, tenant risers, lifts, electrical, standby power, tenant supplementary loop, building management, communications, hydraulics, security, amenities and parking.

The other countries chosen in the study do not have a standard specific guide to classify office buildings. The classification attempts have been developed by individual real estate consulting companies or organizations. In Singapore, Colliers International and Cushman & Wakefield have identified their own criteria when classifying class A buildings. Colliers International has included location, amenities, building specifications, age and total area of building whilst Cushman & Wakefield have also included public transportation, ownership and car park. The Hong Kong Rating & Valuation Department has developed a more simplistic matrix that has included mainly physical building features, professional management and parking facilities normally available. Colliers international Hong Kong and Knight Frank Hong Kong have included location, age and rental in the classification in addition to the building features that have been accounted for. Various real estate consultants in Tokyo have adopted a simple measure to classify office buildings. CB Richard Ellis, Japan, DTZ Debenham Tie Leung, KK and Jones lang La Salle have chosen location and floor area as common criteria. Other criteria that have been included in one or the other companies are the age, building features, accessibility and image.

Real estate organizations such as Knight Frank and Jones Lang La Salle have chosen location and building facilities as common criteria to classify office buildings in London. The other criteria that have been included by either of the companies include accessibility, transportation link and market demand. BOMA (The Building Owners and Managers Association) Chicago and Richard Ellis Chicago have chosen building features and building amenities as the common criteria. The other criteria that have been included by either of the organization are rent, building finishes, location, accessibility, market perception and age.

What can be observed from the investigation into the international practices are the following facts and findings: except for Australia, no standard office classification system has been developed by the countries identified in the study. In Australia, the office grading system is developed by the Property Council of Australia in 2006. The grading system is documented as 'A Guide to Office Building Quality' which is intended merely as a guideline and is voluntary in implementation.

It is also observed that the set of criteria adopted and the weightages given differ from one city to another depending on the characters particular to the city itself. They tend to reflect

the economic and business characters of the city. In developing any rating system to grade office buildings, the demand of the occupiers reflects the preference to choose premises that suit the economics and business activities in a given city. In Hong Kong and Singapore where the trading and financial activities are evident, the majority of the financial institutions prefer to be located in office buildings in the CBD area. However, there is a trend to be located in office buildings at accessible areas not within the CBD with good transportation infrastructure. The majority of these office buildings is new and is constructed with the state-of-the-art technology and facilities. Likewise, office buildings in Tokyo and London where there have been strong economic performance and international trading, prime office buildings tend to located at the central business district accessible to major transportation hub. Image, building features with finishes and high technology facilities become important considerations. Organisations in Australia and United States have also indicated green building features as an important consideration.

From the classification systems that have been revealed by the various sample organisations in the identified countries, a preliminary concise summary of the criteria that are used is tabulated as Table 1 as follows:

Table 1: List of criteria selected by sample organizations in various countries

Factors	Australia	United Kingdom	United States	Japan	Hong Kong	Singapore
Location	√	√	√	√	√	√
Accessibility	√	√	√	√	√	√
Building Specifications	√	√	√	√	√	√
Building Age	-	-	√	√	√	√
Total Floor Area	√	√	-	√	√	√
Floor Plate	√	√	-	√	√	√
Amenities	-	-	√	-	-	
Green Factors	√	-	√	-	-	-
Parking Facilities	√	-	-	-	√	

(Source: this study, 2008)

SELECTED CRITERIA FOR PBO CLASSIFICATION

In arriving at the final matrix to be used for classifying PBOs in Malaysia, the common criteria from the literature, local initiatives and the international practices criteria at various cities as well as the Australia Property Council Office Quality Guide have been identified. These criteria and sub criteria have been identified and summarized in Table 2.

Using the selected criteria and to arrive at the list of final criteria, several expert focus group sessions were conducted to seek expert opinions. The experts were chosen from the stakeholders from the Malaysian property market namely tenants, owners and managers of PBOs in Kuala Lumpur. The key feature of focus group research is the explicit use of the group interaction to produce data and insights that would be less accessible without the interaction found in a group (Morgan 1988:12). Focus groups can achieve this because

participants not only articulate their views about a particular topic, but also explain to the group members the reason why they hold these views. Such participation occurs as participants question each other, or even challenge views, which might differ from their own.
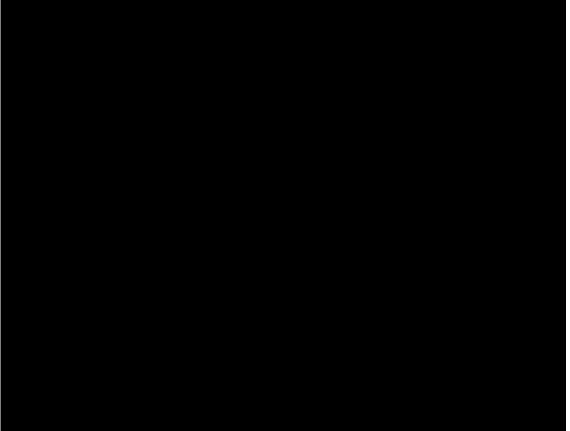
Table 2: Selected Criteria for Classifying PBOs in Malaysia

Criteria	Sub Criteria
1. Location	Location, Transport Access
2. Economic	Prospect for Rental and Capital Growth
3. Physical	Mechanical, Tenants Risers, Lift, Power, Lighting Power Consumption, Standby Power:Base Building, Building Management, Communications, Hydraulics, Security, Amenities, Parking, Floor Plate Size, Floor Area, Building Age
4. Environmental	Green Building, Energy Saving
5. Others	Expensive View/Outlook, Ample Natural Lighting, Prestige Lobby and Lift Finishes, Prestige Quality Access from an Attractive Street Setting, High Quality Lift Ride, Premium Presentation and Maintenance

(Source: this study, 2008)

The objective of the first focus group is to seek the opinion of the stakeholders in the Malaysian office sector of the important criteria to be considered in the classification framework. To gauge the choice of the criteria from the three groups in the discussion, a summary of the responses from the panelists for all the criteria and sub criteria by the mean score is illustrated as follows:

Chart 1: Mean Score of the Criteria Chosen by Panelists

(Source: this study, 2008)

From the mean score given by the panelists, the criteria and sub criteria that were rated to be important are summarised as follows:

Location - Location and Transport Access
Economics - Prospect for Rental and Capital Growth
Physical - Mechanical, Lift, Electrical, Standby Power – Base Building, Building Maintenance, Communications, Hydraulics, Security, Amenities, parking, Floor Plate Size and Floor Area
Environmental - Energy Saving
Others - - Expensive View/Outlook, Prestige Lobby and Lift Finishes, High Quality Lift Ride, Premium Presentation and Maintenance

It can be observed that each panel group has its own preference of criteria but has indicated that for most of the listed criteria with the exception of environmental criteria for tenants, the list of criteria are a good indication of the important criteria for consideration in the classification of office buildings exercise. However, the expert panel groups have also suggested other criteria that could be included in the classification matrix. They are life & safety, accessibility, surrounding buildings and users, prestige, tenant / occupiers' profile, flexibility and comfort.

To further identify and rank the criteria to be included in the classification matrix, the opinions of the expert panelists during a second focus group discussion were sought. The panelists were chosen from the various stakeholders of the office buildings located in Kuala Lumpur. Thirty one panelists representing building owners/investors, building managers and tenants had participated in the discussion. Building owners represented 29% of the group while tenants and property managers represented 29% and 42% respectively. The list of office building main criteria was presented to each group during the session. The respondents were required to compare each of these criteria in pairs. They indicated which one of the criteria was more important than the other, as far as contributing to the quality of typical office buildings in Kuala Lumpur is concerned, and then indicated the degree of importance of one office building quality attribute over the other on a five-point scale ranging from 1 = equal importance to 5 = absolute importance. Equal importance for any pair of office building criteria was permitted. A total of 104 pair wise comparisons were made by each panelist.

As the survey respondents involved a number of property professional groups (i.e. office building owners, managers and users), it was important to ensure the survey responses were rigorous. In particular, it was essential that office building owners and managers did not show a potential bias towards their own particular office buildings. This was achieved by requiring respondents to assess office building quality in a generic sense of how good an office building is in meeting the objectives and requirements of the respective group, rather than in relation to specific office buildings owned or managed by the owners and managers, respectively.

The relative weights of importance assigned to each of these office building criteria and sub-criteria were assessed using the multi-criteria decision-making procedure of AHP developed by Saaty (1994, 1996). Amongst the multi-criteria decision-making procedures available, AHP has been shown to be superior to other procedures such as equal weight averaging

model (EWAM) and simple multi-attitude rating technique (SMART) (Kang and Stam, 1994; Wang and Yang, 1998). Importantly, AHP allows for both scoring and weighting of factors.

An overall AHP analysis was performed, with separate AHP analyses done for each of the three property groups of office building owners, office building users and office property. Respondent consistency was assessed using the consistency ratio measure in AHP. A consistency ratio of less than 0.20 is considered suitable.

Using the AHP analysis for all property market stakeholders, Table 3 presents the weightings for the five main office building criteria. The office building criteria in order of importance were location (39.9 %), economics (25.2%), physical (18.4%), others (9.0%) and environmental (7.5%). Priority was given by the respondents to location and economics, with these two factors accounting for over 65% of the weightings.

Table 3: Weightings for the five office main criteria for the three property groups

	Overall	Owners	Managers	Tenants
Location	39.9 (1)	37.0 (2)	50.3 (1)	48.1 (1)
Economics	25.2 (2)	41.6 (1)	23.9 (2)	13.7 (3)
Physical	18.4 (3)	13.1 (3)	16.2 (3)	20.9 (2)
Environmental	7.5 (5)	5.8 (4)	4.5 (5)	8.5 (5)
Others	9.0 (4)	2.6 (5)	5.1 (4)	8.9 (4)

(Source: this study, 2008)

Table 3 also presents the office building criteria weights for the three panel groups of office building owners, office tenants and property managers. Location was the most important criteria for all property groups except the owners. This result is indeed quite intuitive in that location is often regarded by everyone as the most important factor affecting the value of an office real estate. In the case of the owners though, location came second to economics. This shows that owners placed greater importance on economics than other factors.

Among the groups, managers gave the highest priority to location at a weighting of 50.3%, as compared to tenants and owners who gave 48.1% and 37.0% respectively. The managers saw economics as the second highest priority while the tenants saw economic as their third priority. The lower priority on economics by tenants reflects their higher priority on another factor, namely physical. Otherwise, location and economics accounted for over 60 per cent of the weightings in each group.

Weights and rankings for the remaining three main factors were generally consistent across the three panel groups. All, particularly the tenants, perceived physical as significantly more important as the other two panel groups. Environmental criteria were seen as the lowest priority by managers and tenants but not by owners who placed it higher at fourth.

Table 4 presents the corresponding ranks for each of the 26 office building quality sub criteria for the three panel groups. The top two sub-criteria of location and transportation determine how effectively the office space can be accessed and reflect the priority of the stakeholders. Rental prospect and capital growth were seen as the third and fourth most important office building quality sub-criteria. This reflects concerns over the value creation capacity of the office space.

Table 4: The corresponding ranks for each of the 26 office building quality sub-criteria

CRITERIA	All	Owners	Bldg Mgrs	Tenants
Location				
Location	1	2	1	1
Transport	2	3	2	2
Economics				
Rental prospect	3	1	3	3
Capital growth	4	4	4	4
Physical				
Mechanical	9	8	9	12
Tenant risers	12	24	21	24
Lifts	11	9	11	11
Electrical	7	5	8	8
Standby	10	13	7	7
Building management	15	11	15	9
Communications	19	16	12	14
Hydraulics	22	18	20	19
Security	13	12	10	13
Amenities	25	25	26	25
Parking	16	14	13	23
Floor plate size	24	23	24	20
Floor area	23	22	22	22
Building age	26	26	25	26
Environmental				
Green building	6	20	5	5
Energy saving	5	6	6	6
Others				
Expensive view	18	19	14	15
Ample natural lighting	21	17	23	21
Prestige lobby and lift finishes	20	21	16	16
Prestige quality access	17	15	17	17
High quality lift ride	14	10	18	18
Premium presentation and maintenance	8	7	19	10

(Source: this study, 2008)

CONCLUSION

From the point of view of this research, the development of the classification framework necessarily involves a multi-stage process. As a starting point, we examined models in other countries, assessing the significance of each model in terms of a host of factors including its objectivity, rigour, extent of acceptance in home country, and its potential relevance toward the framework construction for Malaysia. In this respect, the model developed by the Property Council of Australia emerged as most promising, particularly since its construction involved elements of consultation and participation from the stakeholders. Because of this,

the Australian model was given significant importance as an input to the construction of classification framework in this research. This led to the listing of the potential criteria to consider for inclusion in the framework.

To achieve in selecting the criteria that are appropriate and relevant in local context, expert panel focus groups discussions were organised involving local experts on the subject matter. The outcome from the first session resulted in the several sub criteria within following main criteria; location, economics, physical, environmental and others being identified as important. The second meeting which followed was aimed at assigning the relative importance of the selected main criteria. A technique referred to as the Analytical Hierarchical Processing (AHP) method was employed in this exercise. Priority was given by the respondents to location and economics, with these two factors accounting for over 65% of the weightings.

Location was the most important factor for all property groups except the owners. This result is indeed quite intuitive in that location is often regarded by everyone as the most important factor affecting the value of an office real estate. In the case of the owners though, location came second to economics. This shows that owners placed greater importance on economics than other factors. The managers saw economics as the second highest priority while the tenants saw economic as their third priority. The lower priority on economics by tenants reflects their higher priority on another factor, namely physical. Weights and rankings for the remaining three quality factors were generally consistent across the three property groups.

The next step forward is, therefore, to embark on filling in the 'descriptors' to attach to each criterion and sub-criterion, that will provide the benchmarks against which office building attributes are eventually gauged. A final framework will be developed incorporating the above findings for further refinement. Work is currently on-going in preparation towards this stage of the research.

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