

Analysing Functional Performance of Commercial Premises using Metaphysical Approach and Standard Commercial Guidelines (SCG)

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ABSTRACT

This paper presents initial findings of a study on functional performance of commercial buildings. Comparison between traditional and modern physical design and planning approaches and practices were carried out by reviewing and analysing selected buildings. The main aim of this study was to find out whether the selected building designs were in compliance with any metaphysical theories. A total number of 13 commercial premises owned by Government agency were selected and of these, six were categorised as “performing”, while seven were “non-performing”. Two locally well-known commercial premises were used as “benchmark”. Findings reveal some evidence of link between metaphysics and functional performance of the commercial buildings. Based on the results of this study, the metaphysical approach in planning and design could be considered to complement the modern design practices. However, further analysis needs to be carried out involving larger samples to confirm the findings of the present study.

Keywords: Commercial buildings, environology, functionality, metaphysics, observational technique

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INTRODUCTION

In 1924, famous architects Le Corbusier and Van Doesburg in 1924 had alluded to the importance of functionality as “the ultimate goal of design”. A good design can be described as a product that fits its purpose.

However, some buildings did not achieve their intended functions. An

example is Pruitt Igoe housing scheme in St Louis, USA. The complex designed by Minoru Yamasaki was initially planned to house modern apartments for community living but later became notorious. It had to be demolished just after 25 years of occupancy to make way for new building complexes. Similarly, the Suleiman Courts in Kuala Lumpur which was built under the direction of the First Prime Minister of Malaysia and meant to be a symbol of progress for an independent and modern Malaysia, had experienced the same fate as Pruitt Igoe. Completed in 1957, Suleiman Courts gave way to the building of a major shopping complex after 20 years of completion as a result of poor construction. This shows non-performing buildings can be converted into performing ones, by way of appropriate planning and design. Thus, it begs the question whether physical planning of buildings that relies on modern approach is sufficient to predict the building performance once in operation and if metaphysical factors can be considered during the planning and design stages.

The original design and planning of the Hong Kong and Shanghai Bank in Hong Kong is an example where metaphysical approach was adopted and proved to be a success. Designed by Norman Foster, inputs from a geomancer during the design stage was followed closely, including comprehensive study of the circulation routes and structural elements, for better prosperity (Lip, 1997). According to Joe Choo Sook Lin, who is the current president of Malaysia Institute of Geomancy Sciences

(MINGGS), the physical design and planning of most buildings in Singapore's commercial area had direct involvement of a Feng Shui master. This requirement was insisted by the late Prime Minister, Lee Kuan Yew. This provides further evidence of possible influence of metaphysical factors at planning for prosperity and success of commercial buildings. Thus, it is interesting to find out whether the consideration of metaphysical factors in planning and design influenced the business.

A report published in 2010 showed retail malls had enjoyed growth in Kuala Lumpur, although the trend indicated that shoppers were highly polarised (Group, 2010). Newly established malls are often packed with visitors while the existing ones are virtually abandoned.

Functional sustainability and metaphysical philosophy in planning and design

“Functionality” is a criterion of a building to ensure it is sustainable and serve the needs of people. The “users’ well-being” shall be the ultimate goal of any building and provide a sense of dignity and pride within the design environment (Caan, 2011). Caan insists that the basic purpose of design is to offer comfort and ensure health and harmony. Such philosophy had already been practised by ancient Malays (Al-Ahmadi, 2006; Gibbs, 1987) and people in China and India. These old practices guided planning and design for their buildings and settlements.

The metaphysical approach provides rules and regulation to align the proposed building with the entire universe (Gibbs, 1987; Koh, 2003; Pegrum, 2000). This alignment is based on the sciences of the cosmos and cosmology (Akkach, 2005) and is related to the arts and science of Geomancy (MacLean, 1997). Today, the term ‘environology’ is commonly used to refer to this practice (Malaysian Institute of Geomancy Sciences, 2014).

Metaphysics is a branch of philosophy relating to an abstract theory that goes beyond reality (Oxford University Press, 2014). It relates to the unseen flow of energy forces that can be felt. The word ‘energy’ here refers to physical or mental strength (Merriam Webster, 2014). The Metaphysical approach revolves around the Universe and the Earth which are interconnected by an ‘electromagnetic field’ and other forces, such as gravity, uptake of earth forces and cosmic forces among others. The same applies for buildings designed by humans, aiming to achieve sustainability.

The Aim, Objectives and Scope of Study

The main aim of this study is to discover whether metaphysics influence the performance of buildings. The first objective is to appraise the design systems of three established Asian cultures, namely Feng Shui, Vastu Vidya and Tajul Muluk as well as standard commercial guidelines (SCG). The second is to analyse selected building premises based on ‘compliance’ with culture-based system and ‘conformance’ with SCG.

The last objective, the study attempts to determine whether the two systems impact on the functional performance of commercial premises and whether metaphysics approach are relevance.

The study is focused on Government agency-owned business premises or commercial buildings (GAB) at various locations. Two prominent commercial buildings i.e. SOGO in Kuala Lumpur and PKNS Complex in Shah Alam were selected. The study areas were Selangor and Negeri Sembilan. The samples were divided into three categories. Category A: Government agency-owned buildings (performing cases) - 7 samples; Category B: Government agency-owned buildings (non-performing) - 6 samples; Category C: Two selected commercial buildings where business is good. This study was based on the fact that a number of Government agency-owned commercial buildings have not performed as initially intended (METRIX), 2005; KPMG, 2006).

A brief background of Government Agency-owned Commercial Buildings (GAB)

Government Agency-owned Commercial Buildings (GAB) is an agency established by the government to encourage the participation of *bumiputras* in business and entrepreneurship. As part of its strategies, the agency has developed physical infrastructure including commercial buildings or complexes in various locations and sizes, nationwide. The selection of premises and

locations are based on the advice from consultants. It is estimated the number of Government agency-owned commercial premises are more than 500 and they are rented to *bumiputra*-owned small businesses or individuals at a minimal rental rate. In addition, this agency also provides advisory service to business owners to nurture and guide them to succeed in business.

METHODS

A study by Poldma (2010) found that subjective experience uncovered issues that are functional. According to her, listening to the users allowed the researchers to obtain the needed information. Hence, the present study used the same observational approach adopted by Mansouri Daneshvar, Khosravi and Rezayi (2013), and Saruwono (2007), in assessing existing case study rather than subjective experience. This is both quantitative and qualitative research in addition to observational technique. The process involved visiting and studying buildings of similar function or type, and/or observing the buildings' physical design and planning characteristics (Foster, 2008). Spatial zoning, organisation, adequacy of spaces, and environmental comfort were also examined.

The identification of GAB in Selangor and Negeri Sembilan was carried out with the assistance from their officers. They buildings were categorised as "performing" and "non-performing". The criteria set for a performing building are based on high frequency of visitors, and an occupancy

rate of above 80%. The premises should also enjoy a good rentals records with a minimum cost for utilities maintenance. Two prominent commercial building "where business is good (sustained for more than 20 years)" were taken as a benchmark or "control samples".

A standardised format was devised in order to ensure accuracy and consistency of recording using metaphysical approach and Standard Commercial Guide. The analysis is based on the existing images on physical design condition, and the building layout planning. The building-surrounding context was taken from the Google satellite images accessed in September 2015. Philosophically, all of the metaphysical approach and the SCG characteristics were assessed point-by-point at the selected samples. It should be mentioned that during observational visits, several tools were used such as laser measurement, light meter, indoor thermometer and compass.

Awang Lah, Abdul Wahab, David, and Saruwono (2015) examined the metaphysical criteria of three established Asian cultures, namely the Feng Shui, Vastu Vidya and Tajul Muluk. The first objective of this study is to appraise building design that uses the metaphysical approach. However, for practicality, this study attempts to focus only the first two architectural principles: the function of space and the aesthetic of sense, as it involved completed buildings or premises.

Guidelines for commercial buildings are based on the modern functionality

Table 1
The metaphysic approach guidelines (Awang Lah et al., 2015)

Architecture Theory	Purpose of Approach	Guidelines Components	Guidelines Elements
Functional	Human cosmic order	Energy generator/accumulation	Magnetic bar
		Orientation	Determine by four cardinal points. Determine by natural object dominates external environment Determine by built object dominates external environment
		Configuration	Concentric composition. Auspicious shape/proportion.
Aesthetic	Human five sense	Spatial Hierarchy	Principle of superiority (internal human's organ systems)
		Symbolism	Spirits (parents & ancestor) – all 5 sense Motivation (religion & culture) - sight Belief (lifestyle & personality) - sight

Table 2
The standard commercial building approach guidelines (Capon, 1999; Littlefield, 2012)

Architecture Theory	Purpose of Approach	Guidelines Components	Guidelines Elements
Functional	Human needs	Physical functioning	Concentrated plan form Magnet (attractions) Clear ceiling minimum Width of shop Depth of shop Car park Goods & service docks Staff facility
	Satisfaction	Activities housed in it Comfort & convenience	Lifestyle needs Shop fittings Environmental standards
Aesthetic	Satisfaction	Pleasure (moral & psychological): Political (will), philosophical (meaning), religious (meaning)	Ornament Shop frontage Window display

design theory and standard commercial building guidelines - Table 2 (Capon, 1999; Littlefield, 2012). Another factor for functional design is economy and efficiency to fulfil human needs and satisfaction (Capon, 1999). This characteristic was not considered in this study since it is not under physical design and planning category. All the characteristics were derived from theoretical analysis study and were arranged in appropriate category for comparison purpose at the end of data analysis. The reason for using two different approaches is to see the influences of metaphysics factors on performance of buildings.

The Conformance and Compliances Analysis

Overall, 15 selected commercial buildings and premises were observed and analysed. The numbers of the samples were decided after the process of screening, based on the researcher criteria and selected by the GAB officer. A few were rejected after observation; some ignored because of time issues and some were refused in terms of accessibility. Two commercial buildings were taken as “benchmarks” in recognition for their “sustainability in business”. It would be interesting to discover whether their ‘sustainability’ or successes had something that relates to the planning and design that ‘comply’ with metaphysical principles and ‘conformance’ with SCG. As for GAB, 13 out of six “non-performing” commercial premises were selected. For the purpose of the analysis, each was labelled with a code denoting the name of building

and location as follows: NSA, RBA, KDA, KJA, JMA and LCP. The “performing” ones were seven premises and each labelled as: SBA, SCP, SPD, TSA, ARM, AGK and SBC.

With the exception of “benchmarks buildings”, all are GAB and located in several areas in Selangor and Negeri Sembilan considered strategic, with established neighbourhood (urban maturity area between 10-20 years), which are considered high, middle and low income groups. All GAB buildings were designed by qualified professionals. The “compliance/conformance analysis” checklist format was created as part of the instruments of observation in order to ensure accuracy and consistency. Items which were found to be in compliance or conformance with the characteristics listed were marked as “1” and the non-compliance/conformance items were marked as “0”.

Each building was analysed against five metaphysical principles, namely energy generator or accumulation, building orientation, spatial hierarchy, physical configuration and planning. Each principle and implied functional character / design response is illustrated in Table 1 and 2. Altogether, there are 13 metaphysical aspects, which are taken as compliance variables. The total “score” for each case (commercial premise) is the sum of all 13 variables converted into percentage in the analysis. The mapping of variables against the Standard Commercial Guidelines (SCG) comprised 19 compliance variables under three main principles: physical

functioning, comfort and convenience afforded, and pleasure (moral and physical). Similar scoring method was used as with metaphysical aspects, adjusted to 19 variables on compliance.

RESULTS AND DISCUSSION

The following displays the compliance trends of buildings vis-a-vis the metaphysical

factors and Standard Commercial Building Guidelines (SCG).

Referring to Figure 2 for GAB performing samples, the result indicates that the significant range between the highest and the lowest scores is remarkable. However, the middle scores were quite consistent. The sample, which obtained the highest score of 92%, fulfilled all metaphysical criteria except on one component.

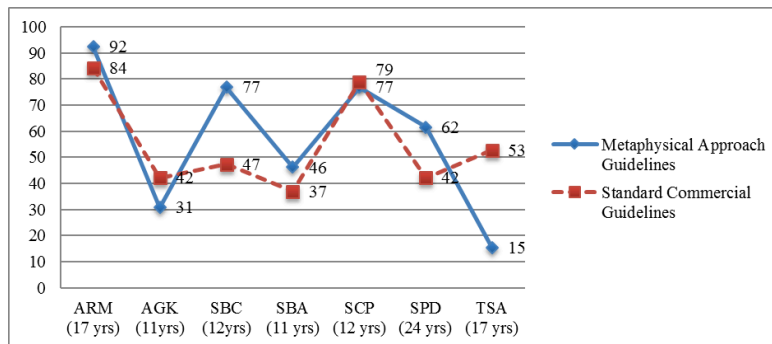


Figure 2. The compliances assessment results on the GAB performing commercial buildings

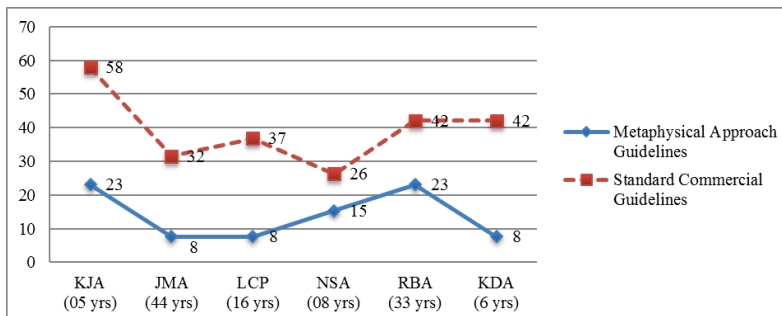


Figure 3. The compliances assessment results on the GAB non-performing commercial buildings

For GAB non-performing building category (Figure 3), data show that the scores are in the range of 8% to a maximum of

23%. Among the samples, three out of 7 premises obtained barely 8%, which means each fulfilled with just one metaphysical

criterion. The highest in the range fulfilled three out 13 criteria.

Both the “benchmark samples” obtained perfect scores for all the metaphysical criteria as shown in Figure 4.

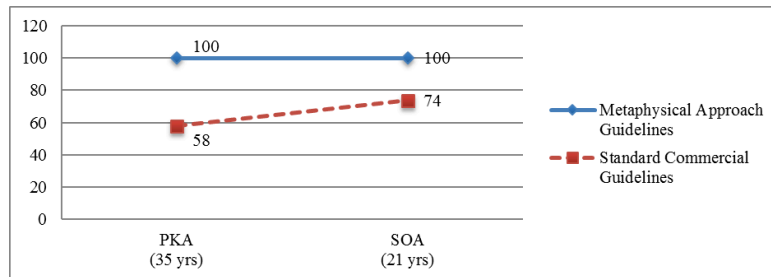


Figure 4. The compliances assessment results on benchmarks commercial buildings

Data seem to suggest that there is some relevance between metaphysical compliance and the functional performance of buildings. Thus, buildings which had complied closely with the metaphysical criteria, are more likely to perform better compared with those, which are not. The benchmark samples provide strong evidence that support this result.

Analysis using the SCG shows a slightly different trend. For GAB non-performing samples, (Figure 3), the lowest score recorded was 26% or complied with 5 of 19 criteria whereas the highest scored 58% (11 of 19). The performing samples (Figure 2) recorded better scores and the lowest score obtained was 37% (7 of 19), while the highest was 84% (16 of 19).

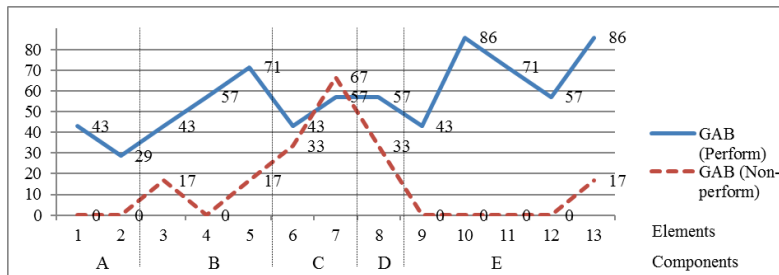
The two benchmark samples obtained 58% and 74% scores respectively as shown in Figure 4. Therefore, the scores show a different pattern compared with the

metaphysical criteria. Only two performing samples scored consistently high for both metaphysical and SCG criteria. Other samples vary in terms of score. For instance one performing sample obtained remarkably better score for SCG (53%) despite scoring a mere 15% for metaphysical criteria. Similar case was also observed for non-performing category. For SCG compliance, it scored 53% compared with 23% for metaphysics.

As shown in Figure 5, none of the non-performing samples scored for “energy generator” and with the exception of one case, none scored for “symbolism”. Further examination shows that non-performing category scored quite notably in the “configuration” criteria.

The scores under performing categories seem to spread quite evenly for all the five main criteria. For instance, with the exception of one case, all six other samples scored under the “symbolism” criteria.

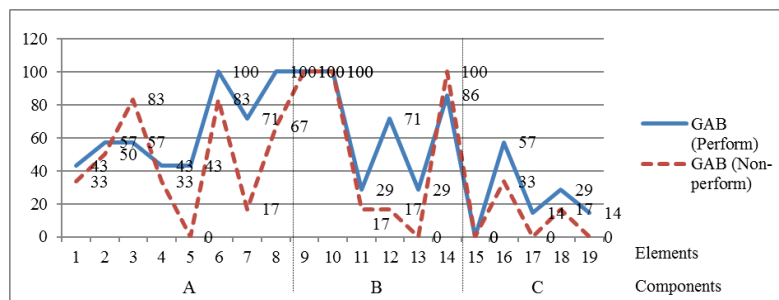
Assessment of Functional Performance Using Metaphysic Approach



- A : Energy Generator/ Accumulation
- B : Orientation
- C : Configuration
- D : Spatial Hierarchy
- E : Symbolism (Spirits, Motivation and Believe)

Figure 5. The components and elements of metaphysical approach guidelines ‘Compliances’ in relation to building performance

It is interesting to discover that one sample which obtained only two out of 13 criteria is under the performing category. Close examination, for this one case it obtained a score each for “orientation” and “configuration” (refer Figure 5).



- A : Physical Functioning (Business Nature)
- B : Comfort and Convenience Afforded
- C : Pleasure (Moral and Psychological)

Figure 6. The components and elements of Standard Commercial Guidelines (SCG) ‘Conformance’ in relation to building performance

The results show some evidence that compliance towards SCG had some influence on the functional performance of buildings (refer to Figure 6). However, the trend has not been as metaphysics. Even when the benchmark samples are compared in terms scores, the metaphysics criteria was perfectly matched but not against SCG. Thus, it would be possible to conclude that compliance with metaphysical

criteria would likely result in buildings that functionally perform better.

Figure 7 shows the circumstances of ‘non-performing’ and ‘performing’

commercial premises related to ‘compliances’ with metaphysical approach guidelines and ‘conformance’ with Standard Commercial Guidelines (SCG).

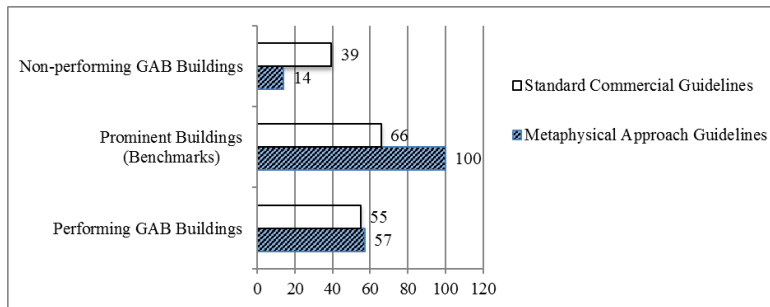


Figure 7. The ‘Compliances’ of metaphysical approach guidelines and the ‘Conformance’ of Standard Commercial Guidelines (SCG) in relation to building performance

However, the findings have to be taken cautiously and further research is needed to verify and confirm the findings.

CONCLUSION

The present study has attempted to discover the influence of metaphysics on the outcomes of commercial building planning and design. It used a metaphysical approach criteria and Standard Commercial Building design to record compliance levels of selected commercial buildings. The initial findings provide some evidence that metaphysics has, to certain extent, influenced the functional performance of the buildings. However, more detailed analysis has to be carried out in order to confirm the findings.

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