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THE IMPACT OF COLUMN AND BEAM CONSTRUCTION SYSTEM TO INTERIOR DESIGN LAYOUT ACCORDING TO *FENGSHUI*

Sidhi Wiguna Teh
Architecture Department, Tarumanagara University, Jakarta 11440, Indonesia

Fermanto Lianto
Architecture Department, Tarumanagara University, Jakarta 11440, Indonesia

Rudy Trisno
Architecture Department, Tarumanagara University, Jakarta 11440, Indonesia

ABSTRACT

The influence of column and beam construction system to interior design layout according to fengshui greatly influences the lives of building users, so it is interesting to study. The methodology in this study is a literature study of fengshui and physics about: 1) Qi (氣); 2) Vibration; 3) Humans and vibrations; 4) Tangible trigger for qi (氣). The conclusions and findings in this study are: 1) The fengshui solution in overcoming the negative effects that occur due to the construction system of column and beam are covered by a ceiling, but the most ideal is not to sit or sleep under the construction system of column and beam; 2) The solution to the sharp angles of the column is to camouflage, so that the column becomes part of the cupboard or shelf, thus avoid the sharp angles that exist, but the most ideal is not to sit facing the column; 3) For interior designers to be more careful in arranging interiors related to the construction system of column and beam, so that users can avoid unexpected things and live more optimally.

Keywords: Column and Beam Construction System; *Fengshui*; Interior Design Layout; *Qi* (氣); Tangible Trigger.

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1. INTRODUCTION

The existence of structures in buildings is an unavoidable need; The form of the construction system in the form of columns and beams is a general frame structure system that is very widely used. The frame structure system to realize architectural design is very flexible. In addition, the frame structure can maintain the strength, durability and stability of the building [1]. Column and beam construction systems are often processed creatively by interior designers, so attractive interior design layout can be obtained. This creativity needs to be done carefully and full of consideration and input from other disciplines [2] such as *fengshui*, so that users of that space can get optimal benefits that are not just cozy or beautiful, but so that users can show optimal life performance [3]. Studying the basic principles of a structural system can be an "unusual" and interesting variation, concerning regulations regarding safety and comfort standards for building users [4]. Based on the above issues, this writing is very interesting to study.

2. MATERIAL AND METODE

The methodology in this study is to analyze the relationship between *fengshui* and the form of column and beam construction system in relation to the interior design layout of the bedroom and workspace through literature studies of *fengshui* and physics about: 1) *Qi* (氣); 2) Vibration; 3) Humans and vibrations; 4) Tangible Triggers for *qi* (氣).

2.1. Qi (氣)

One important discussion in *fengshui* and often misunderstood is the notion of *qi* (氣), many interpret *qi* (氣) as energy, but actually not, *qi* (氣) is indeed similar to energy, some comments have been dedicated to clarifying this term and, it is rather difficult for correct English translations. While "energy" can capture only a few physical characteristics and does not discuss its metaphysical qualities [5], in Chinese character: "*qi*" (氣) and "air" are the same character [6].

2.2. Vibration

Everything is composed of atoms [7], where there are electrons, protons, and neutrons. These electrons are always moving and the movement of electrons in each atom emits vibrations. If you want to know the secrets of the universe, you must know about energy, frequency and vibration, which has been conveyed by Nikola Tesla. Mathematical analysis, which describes electron movements, has shown that it forms a rotating electromagnetic torus [8]. The first and most appropriate observation is how the movement of electrons is in harmony with the vibrations of atoms which ripples through exotic materials, dancing with the same rhythm [9].

Electrons carry an electric charge. Stationary electrons do not create a magnetic field (such as wire without current). Electrons that move at constant speed produce a stable magnetic field, but (like a magnet that does not move in a wire coil) a constant magnetic field will not produce an electric field. An electron that moves at a changing speed (i.e. acceleration) will produce an ever-changing magnetic field, so that it produces an ever-changing electric field. This ever-changing magnetic field, in other words, produces electromagnetic waves [10]

2.3. Human and Vibration

The human body is natural electromagnetic energy, and humans are electromagnetic creatures. Body is affected by electromagnetic fields in environment. People all over the world report health problems after being contaminated with electromagnets [11]. There is a lot of literature

that discusses the influence of electromagnetic fields on human body tissue [12]. The metabolic processes in the human body are influenced by EMFs (Electro Magnetic Field) and also have biological effects on cells through various mechanisms [13].

The human body consists of seventy percent of the iron present in blood cells [14], or 0.008% of the body mass, and is needed for survival [15]. The elements in body, such as sodium, potassium, calcium, and magnesium, have certain electrical charges. Cells use all these charge elements called ions, which can produce electricity [16].

2.4. Tangible Triggers for Qi (氣)

Are there square columns or low hanging beams in your home or office? If there is, it will make a little '*Sha Qi'* (煞 氣) in your environment. In *fengshui*, sharp or prominent angles create cutting energy that can have a negative impact on people who sit, sleep or work near them [17]**.** The beam construction on the ceiling is not right, as well as beams hidden on the ceiling are a problem, especially if the beam is big and heavy. Don't sleep or sit directly below them [18]. When the bed where you sleep, or where you sit at work has been hit by overhead beam construction, it can cause poor health, which can cause bad luck and business problems. Sleep radiates light can cause severe illness [19].

3. RESULTS AND DISCUSSION

Fengshui is very concerned about the effects of building arrangement on its users, which sometimes causes misunderstandings. So, I any misunderstand by considering *fengshui* as superstitions. An explanation with a simple but comprehensive example will be described below, which is a solution of *fengshui* and forms of construction system. Column and beam construction system can be a trigger that causes bad things for space users, because the shape of the column and beam construction system becomes a trigger for *qi* (氣) which changes in a negative direction and gives a bad effect.

3.1. Understanding of Qi (氣)

To understand *qi* (氣), we need to understand *qi* (氣) beyond the understanding of energy, perhaps it would be interesting if we also ask why this science is called *fengshui* (風 *Feng* = wind, 水*Shui* = water). Wind (moving air) can form the surface of the ground; wind abrasion can erode the surface of the earth through deflation. Strong wind abrasions can weather physical rock, deflation refers to active winds that emit loose particles. Wind erosion has a major impact on the formation of the earth's surface and affects life. This can affect plants and soil that interfere with agriculture and can also have an impact on air quality [20].

In the Chinese vernacular *'peranakan'* architecture, it can be seen how Chinese homes in the past have always had "air well" (天 井 / *Tian Jin*) in order to have good air ventilation for the house, this shows how this Chinese architecture is very concerned about the movement of the wind so that the characteristics of the wind move along the existing physical form. The wind is reflective, so is the characteristic *qi* (氣) which will bounce when it encounters a field or object in the room. Therefore, the flow of *qi* (氣) that affects the beam or column will reflect and cause effects. In addition, the sharp angles formed from the beam and column are also poison arrows (暗 箭 / Àn Jiàn) which trigger *qi* (氣) to be negative.

3.2. Understanding about Vibration

The vibrations from the movements that occur in atoms give rise to electromagnetic fields. Electromagnetic waves are vibrations using the unit Hertz (Hz) and the human body also works electrically. One of the most striking things is that most of the material contained in blood cells is Ferro (Fe) and other minerals.

The form of column and beam construction system causes vibration also because of the load borne by the current column and beam, therefore in the study of *fengshui*, room users who sit under a beam or who sit facing a column are not ideal due to exposure to negative *qi* (氣) that occurs.

3.3. Understanding the Human Body against Vibration

The vibrations emitted by atoms can affect the human body, as found in the construction system of column and beam which can be a trigger for *qi* (氣) to be activated. Sharp angles on column and beam are avoided by *fengshui* rules because it can trigger *qi* (氣) to be negative.

The human body that works electrically and is sensitive to the influence of electromagnetic fields due to the content of minerals in the body as well as the body's work system that works electrically make us easily affected by exposure vibration from column and beam construction system.

3.4. Understanding of Tangible Triggers for Qi (氣)

In fengshui, *qi* (氣) is basically neutral. It will be a problem if *qi* (氣) is interfered with by triggers that can produce positive or negative *qi* (氣). These triggers can be tangible and intangible. Triggers which are tangible physical forms include a form of construction system such as columns and beams, while the intangible is time, smell and sound.

Qi (氣) encompasses everything and is in every living being. The flow of *qi* (氣) and the existence of *qi* (氣) need to be arranged in such a way as to provide positive benefits. *Qi* (氣) in accordance with the theory of "*Yin Yang*" (陰 陽) can be positive and also be negative. There are triggers that are tangible which can make *qi* (氣) to be negative, that is, among others, forms of construction system of column and beam that have sharp angles, so an arrangement needs to be done in order that column and beam construction system not to be a negative trigger for *qi* (氣). Camouflage from the form of column and beam construction system can minimize this negative effect but ideal interior design layout in a *fengshui* rule is highly recommended so that the user gets optimal benefits.

The interior designer creativity in arranging the interior, among others, by displaying exposed structures where the beam construction system is displayed as part of the interior can indeed be interesting (See Figure 1, 2), but this is not recommended in *fengshui* because this beam will trigger the negative effects of *qi* (氣) circulating in the room.

In figure 1, it can be seen how the interior of the bedroom is arranged in such a way with various creativity from the interior designer, but this causes the beams to cross over the bed, which triggers the *qi* (氣) to be negative and has a negative effect on the occupants of the room.

Figure 1 Bed under the Beam Construction System

Source: https://designingidea.com and https://www.google.com/search?, downloaded on November 20, 2018

In figure 2, it can be seen how the interior of the workspace is arranged in such a way with various creativity from the interior designer, but it results in crossing the beam on the work table and the sloping column due to the attic shape, which triggers the *qi* (氣) to be negative and has a negative effect on the user.

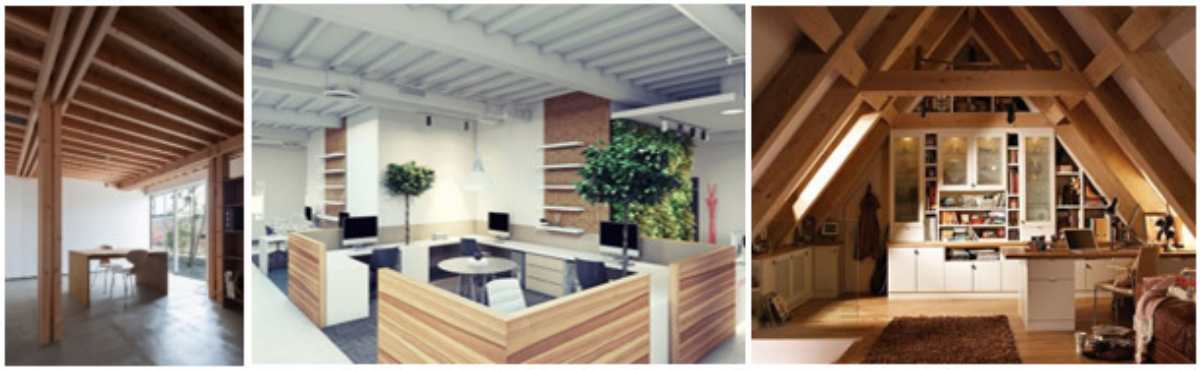

Figure 2 Workspace under the Beam Construction System

Source: https://www.dezeen.com and https://www.google.com/search?, downloaded on November 20, 2018

As we know, column and beam construction system which is the structure of a building always bear a large burden so that the building can stand. The loads flowing through the column and beam will emit vibrations as a result of existing loads and this will affect users who are nearby under the beam construction system. This will give negative influence because the

emission from the load flow occurs, so that users who are active in that place cannot perform well.

4. CONCLUSION

The *fengshui* solution in overcoming the negative effects that occur due to the construction system of column and beam are to cover them by a ceiling, but the most ideal is not to sit or sleep under the construction system of column and beam. The solution to the sharp angles of the column is to camouflage, so that the column becomes part of the cupboard or shelf, thus avoid the sharp angles that exist, but the most ideal is not to sit facing the column.

Arrangement of column and beam construction system that are handled properly will be able to provide a positive effect for the users of the building so that the user can run his life optimally. Interior designers should be more careful in arranging interiors related to the construction system of column and beam, so that users can avoid unexpected things and live more optimally.

This paper is expected to trigger similar research more deeply so that the structuring of buildings in architecture, structure and interior can provide the best benefits for users. It is expected that the scientific evidence of *fengshui* is increasingly open and even though there are things that cannot be explained in detail, hopefully the development of science in the future can provide answers.

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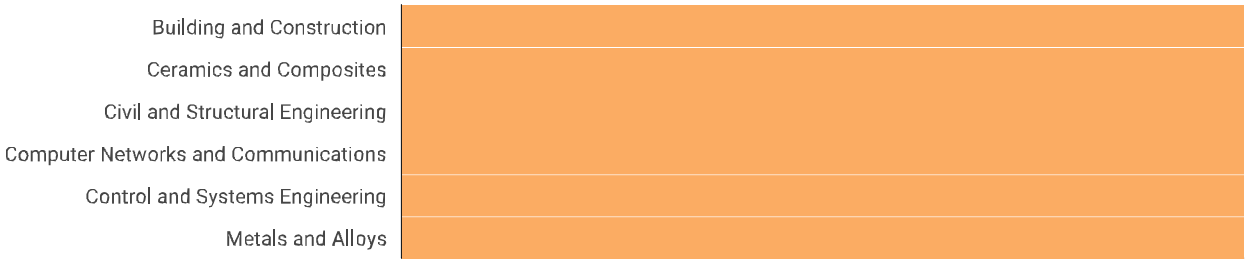

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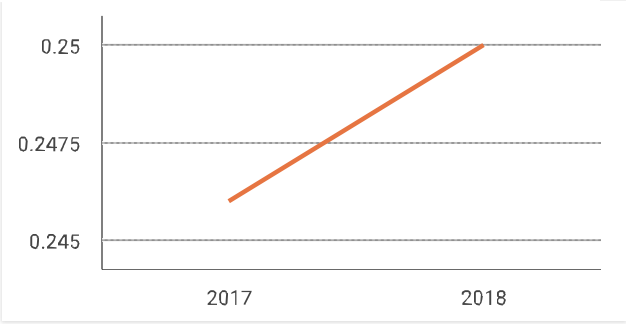

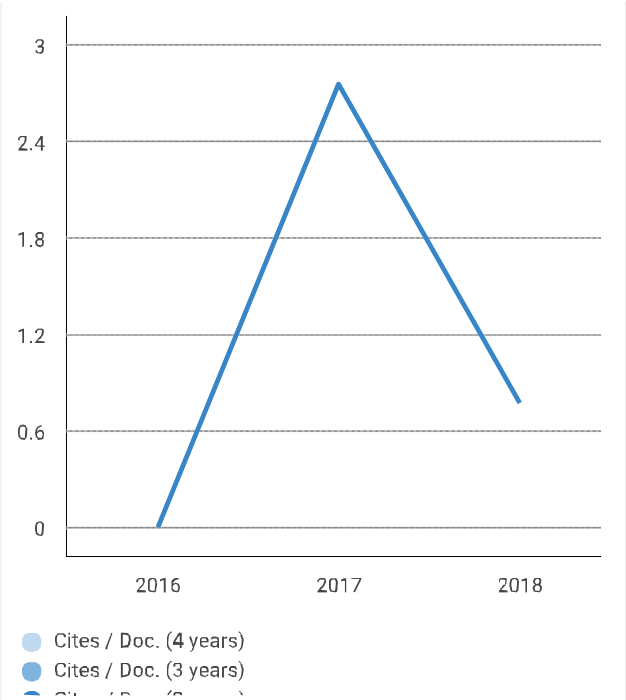

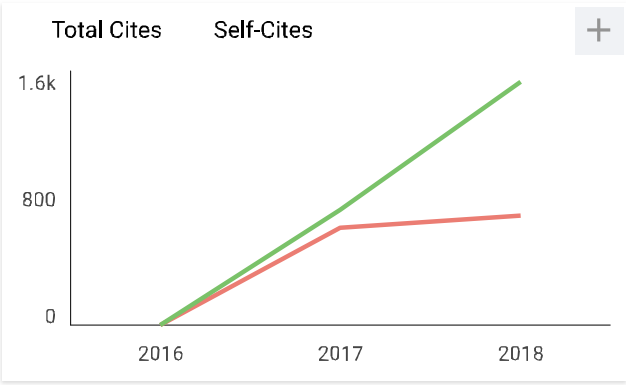

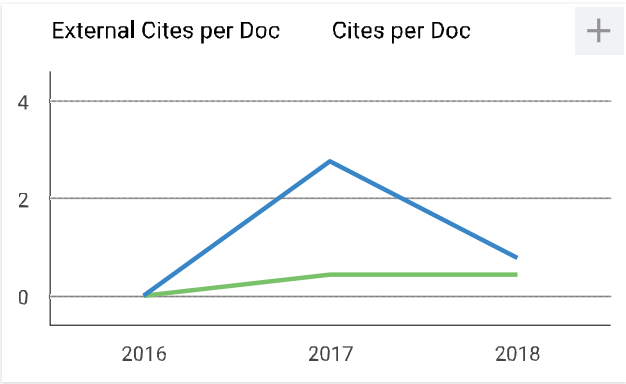

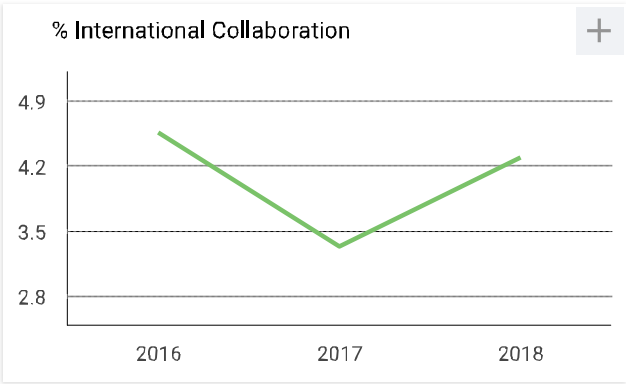

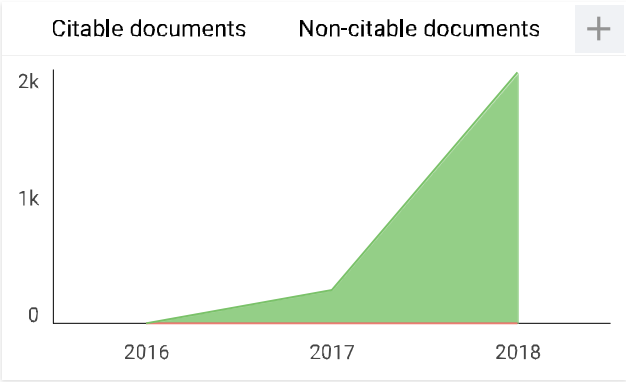

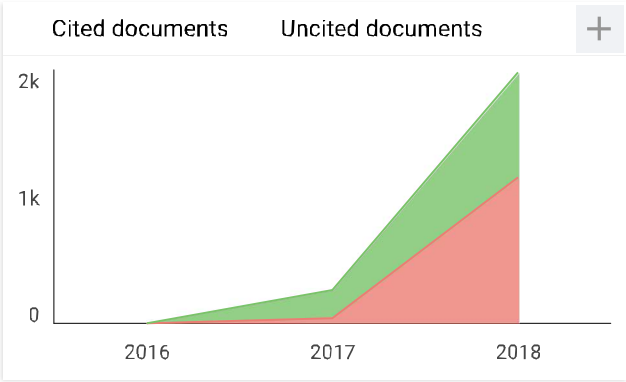

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