Where is the balance between creativity and efficiency in modern buildings?

Tanatcha Yimsinsomboon
Being fascinated by Physics and the concept of buildings with pleasing designs, I decided that a creative project would best suit my interest. I started off with researching on Pinterest as a guide to various structures of buildings that exist today, which categorises under two sections; representational and abstract. I also created a board on the site called “Architecture”, where I pinned many of my research work ranging from photographs to articles on the aesthetics of buildings. To extend my research, I read widely. A few articles that specifically interest me are “Is the drive for sustainability killing architects’ creativity?”¹, “50 Most Unusual Places To Stay In The World”², and “11 Most Amazing Glass Houses”³ in which I learnt that in order to produce buildings that is up to a sufficient standard, an equal amount of creativity and efficiency must be put in. However, architecture is a subject where there are no boundaries, so why did the abstracts designs produced by Frank Gehry⁴ in his early years got rejected by numerous customers, which finally lead him to become a successful architect on his own.⁵ This means there must be a stability in the inventive designs and the concept of security. But where does that point of equilibrium lies? This was when I came up with a title for my EPQ “Where is the balance in creativity and efficiency in modern buildings?”

Next, I decided that I will illustrate the structures visually by constructing two models of the same building, however, one will be more creative-based and another being more standard. This idea began when I came across an article called “468-metre-high crystalline skyscraper in Chengdu, China”⁶ which inspired me to produce an abstract structures demonstrating that an architecture which may seems dangerous are in fact very invulnerable, according to mathematical calculations. To simplify the numbers, I selected a physical equation that involves the assessment of moment which is ‘Moment = Force x Perpendicular distance’.⁷ This is to elucidate how the moment of each sides of the building can be balance, though this may be harder to notice without a mathematical proof. From this, I was determined to create a model that has numerous branchings coming off of each sides. This is to represent the abstract replica, exploring the various designs of buildings that have a sense of riskiness and danger involved. After that, I looked through more articles such as “15 Unusual Buildings Around

---

¹ [http://www.bdonline.co.uk/is-the-drive-for-sustainability-killing-architects’-creativity/?/3113145.article](http://www.bdonline.co.uk/is-the-drive-for-sustainability-killing-architects’-creativity/?/3113145.article)

² [https://www.triphobo.com/blog/amazing-hotels-of-the-world](https://www.triphobo.com/blog/amazing-hotels-of-the-world)

³ [http://www.oddee.com/item_98475.aspx](http://www.oddee.com/item_98475.aspx)

⁴ [http://architecture.about.com/od/greatbuildings/ss/Gehry-Portfolio.htm](http://architecture.about.com/od/greatbuildings/ss/Gehry-Portfolio.htm)


The World™️ and “21 Of The Strangest And Most Unique Buildings From Around The World”⁸ which gave me a few different ideas on how to start my creative-based model.

From reading an article on Factly¹⁰, I found out that various structures of buildings have different tendency to collapse, with the two highest ranking as residential buildings and commercial buildings. However, the number of death in residential buildings is far greater than commercial by 32.7% despite how commercial buildings tend to be more creative and more appealing. This shows that the shapes does not play a big role in this as buildings can be constructed to a high or low standard regardless of their outlook. Moreover, from the graph, the number of incidents and collapse of structure has increase and decreases slightly from 2010 to 2013, however, this has decreases significantly from 2013 to 2014. This shows that the safety factor in these architectural design has improved greater in the recent years, along side the increasing number of modern complexities. Thus, despite the development in the creative area, the secureness has also increases meaning that the efficiency can still be maintained.

Next, I moved on to a research for the building with a more original outline. A question I set for myself was ‘What makes a building simple, yet stylish?’ From this I read some articles based on contemporary and fashionable buildings, where I found a few with very interesting ideas. For example, “25 Modern Architectural Designs from around the World”¹¹ and “Beautiful Architecture & Interior Design”¹² where different designs and inspirations from various countries is reflected within the complexity of the building. Each with their own individual pattern and arrangement of the floor plan. This gave me an idea of how the building can have a unique structural design. On top of that, I read a blog named “Ideal home”¹³ where features of a ‘homely’ place is described. At this stage, I was motivated to find out which one of the two models would the majority of people prefer. This led me onto producing a set of questionnaire with a small number of questions asking the gender, age, personal preference of one of the building and why. To ensure a fair test, I intended to have 10 males and 10 females doing the questionnaires, with equal amount of people in each age group. This was divided by 0-10, 11-20, 21-30, 31-40, 41-50 years old, with 2 males and 2 females in each range to produce accurate results. This acts as a backup to support my goal to find out the tension between creativity and efficiency in architecture.

---


¹⁰ https://factly.in/more-than-13000-lost-lives-in-structure-collapses-in-the-last-5-years/

¹¹ http://www.fromupnorth.com/architecture-and-interior-design-898/

¹² http://www.fromupnorth.com/architecture-interior-design-1063/

¹³ http://www.bloglovin.com/frame?post=2726345317&group=0&frame_type=a&blog=1844326&link=aHR0cDovL215aWRlYWxob21lLmN1bWJsci5jb20vcG9zdC84NDIxOTcyMDc0Mg&frame=1&click=0&user=0
In addition to the two models, I decided to produce a piece of writing describing the two models of what the observers should be thinking when looking at these artefacts. This is mainly to elucidate the reasons behind constructing these, as well as a chance to give analytical ideas on where the balance between efficiency and creativity is, or if it exists in reality. This idea was suggested by my supervisor, alongside an influence by a number of architectural models in museums where there is a description under each piece of work. One which particularly interests me is “Around the World in 80 Buildings: North America’s Landmark Projects” where Eric Baldwin gives logical ideas of why he decided to produce this model and it was to mirror the busy lives of people in the area. Another factor I found to be very useful in deciding which shapes the buildings should be, and what meaning they suggests. Moreover, I came across an article called “Modern Architecture and Beautiful House Designs” where unusual materials and creative structures were involved in the steps of constructing the buildings. The buildings have their own, unique style because each represents the area they are in by having a features that highlights the trademarks of that place, for example, Louise Vuitton store in Shenzhen where many likes to endeavour in designer brands. My piece of writing consists of arguments for and against whether the aim to improve sustainability is refraining architects from their innovativeness. This allowed the readers to understand the cause of building these two models - to compare and contrast the abstract with original ideas in order to find out whether there is a limit to these two factors.

In summary, my artefacts consist of two models of buildings constructed to illustrate the difference between creativity-based building and one that is more pragmatic. The questionnaire was designed to assess my result, as well as to obtain opinions from the viewers. This displays that my project has been a success as the models can represent real buildings and give people a sense of space which is why they were able to give opinions and make judgements on which of the two they would like to live in. Together with this, I have a piece of writing that analyses the structures of the models, which will explicate what the observers should be looking for when seeing these models next to one another.

In the end, I found out that there is no fixed point of balance in real life - as long as the efficiency of the structure is maintained to a high standard - the creativity can be explored as far as one’s personal preference. This outcome was supported by the result of my questionnaires in which I discovered that different people are almost always going to have a varied point of views towards a topic. Some interesting opinions from the questionnaires were that the creative building is an excellent way to attract tourists the area and would be suitable as museums or theatre. However, the practical model is more suited to being a home or an apartment, as this provides a more secure environment and the rooms would be more functional. Thus, there is no right or wrong with the two models. It is only a matter of a space and personal viewpoints where one would feel comfortable spending time.

14 http://architizer.com/blog/80-north-america/#.WD2wcBt7OCs.pinterest
15 https://www.pinterest.com/pin/28780885092543094/