

Conference Paper

Creativity of Lighting Industry in the Interior Design for a Thematic Café Resto in the Disruptive Era

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Abstract

This era of disruption has caused turmoil multiple industries, especially the creative industry. One development is the emergence of cafés in public spaces as a place of socialization for the people of Jakarta. This more widespread presence has an impact on the thematic creativity of the interior designs for cafés, restaurants and coffee shops. The number of cafés has seen a significant increase – matching the shifting lifestyle of urban communities. Digital technologies and social media platforms are increasing consumer attention on café decor. Interior designers are required to produce creative and innovative layouts. Lighting has an important role in creating the ambience. Thematic cafés with good lighting will produce a beautiful, comfortable and functional atmosphere. The demand for creative lamp armature designs support creativity designers. Data was collected for this study via direct observations, interviews, and literature studies, and analysis descriptive qualitative methods were applied to consider the approach of lighting concepts, aesthetics and design.

Keywords: disruptive, creativity, lighting, cafe, thematic.

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1. Introduction

Disruptive is usually used in the business world, where there are things that interfere in life. Clayton Christensen in 1997 in his book *The Innovator Dilemma* coined the term "disruption", he revealed how a successful company not only thinks about the needs of customers today but is able to anticipate their needs going forward. He also said that small companies as a minimal resource able to enter the market and replace existing systems.

Then how is the ability of customers to take advantage of something new in one line, where customers can be grouped into customers who are quickly satisfied and demanding customers. Meanwhile the distribution of goods applies new technology. Disruptive innovation how to develop a product or service in unexpected ways in the

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market, thereby creating new types of consumers and lower prices ease of use. The new types of consumers are satisfied customers and demanding customers.

The disruptive era did not only affect economic development, but various sectors of the creative industries such as interior design. The current interior design is much influenced by consumer needs related to social media, where consumers want to show their existences when they are in a place, one of which is a restaurant, cafe, coffee shop, or other dining places. So that the interior design of places to eat is made interesting, beautiful and unique. when it looks becomes interesting. Meanwhile what consumers do, can indirectly be part of the promotion for the place, so that it becomes a new form of promotion. The change in promotion can be a disruption of a new productive form.

This research wants to see how the disruption becomes a part related to interior design, especially lighting industry products, namely the design of lamps and the resulting lighting. To connect lighting (lights) in the interior to the disruptive era, it can be linked to the concept of thematic cafe interior themes, where lighting plays a role in shaping the atmosphere.

Interior design is a field of science that deals with the beauty of function, ambience, comfort, security of space in architecture, which is formed from interior elements inherent in buildings. In addition to the interior elements there are elements of furniture, aesthetic elements and lighting that affected the atmosphere in the room. This research will discuss about lighting in public spaces, especially café resto.

The presence of lighting allows visitors to see every element contained in the space. Every cafe has a different design style according to the theme you want to display in the design and supported by lighting so that the thematic and aesthetic ambience of the cafe space increasingly shapes the atmosphere of the space.

Current lighting is one of the important aesthetic elements in interior design, where lighting is produced by radiation energy from repetitive waveforms originating from light sources and is part of the electromagnetic wave spectrum.[1] To support electromagnetic waves and obtain an attractive lighting aesthetic, good and beautiful lamp designs (armature) are needed, so that the space becomes attractive. Now many visible forms and designs of lamps that are unique and interesting. The creativity of lighting designers is demanded to produce unusual designs (aesthetic lighting).

2. Research Method

In the study using descriptive qualitative analysis, which is an analytical method that describes or describes the circumstances in the field relating to the data used to draw



Figure 1: KIMUKATSU Restaurant, location of Bintaro Exchange(Source: Personal Documents 2019)

conclusions from several conclusions from several places used as research sites as a measurement tool. The research describes the theme of cafe interior design applied, how the application of lighting in thematic cafe interiors, and how the innovation of lamp design to the disruptive era. The method of data collection is done by field studies and literature studies. This study aims to determine the extent to which lighting concepts in the interior are applied to cafes around South Jakarta, so that later this research is expected to provide new knowledge and provide inspiration for the world of interior design at this time in particular of thematic interior café.

Documentation in the form of photographs is needed to strengthen the informant's information and research analysis so that it becomes accurate. The documentation in question is evidence of images / cafe interior design in the form of archives and photographs, so that the truth can be seen, making it easier to write reports.

3. The History of Lighting

In the beginning, humans used lighting to facilitate their activities at night or indoors when it was dark. Humans do not see the lighting can affect the beauty of a space or object. The power of lighting only relies on the available natural energy. With the development of science and technology humans began to search for alternative energy.

Natural lighting that appears in nature, namely sunlight, moonlight, and starlight are the most important sources of light for life. But because the human need for light increases, humans learn to create alternative light. The alternative light is made from oil, candles and firewood. This alternative lighting requires a container, which initially has a functional form, then develops with beautiful new forms. From public reading sources, it is explained that candles have been used since the days of Egypt 3000 BC. They use reeds that are wrapped in animal fat, and then use honeycomb wax by using a wick. China uses whale fat, Japan from insects and seeds, and several other major European countries.

The times, the lighting method has also changed, both the material, shape, design and function. Centuries later humans tried to develop, improve lighting with the latest technology. High point of this change occurred during the 18th century industrial revolution in Europe, where there was a fundamental change from manual technology to machine technology (factory industry).

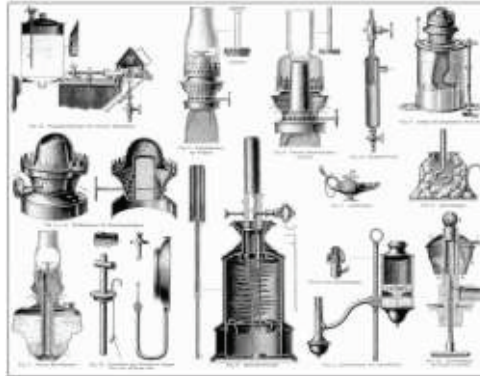


Figure 2: Lamps and burners dating back to the second half of the 19. century, (Source: Handbook of Lighting Design 1992)

The history an invention of the lamp, begins with incandescent lamps with the discovery of the 'voltaic pile' by Alessandro Volta in the early 19th century. In 1802 Sir Humphry Davy discovered that an electric current could heat a thin metal until it turned white.[2] Then in 1820, Warren De la Rue designed a lamp with platinum metal coils in tubes that were electrified until they were lit. Thomas Alfa Edison in 1879 participated in designing incandescent lamps using the platinum element, although the use of this material was impractical, he still tried to find other elements that could be heated efficiently and economically. Eventually Edison managed to find a lamp that can last for 40 hours. [2]

Along the time and technological developments, the type of lamp is not only incandescent but also found a new type of lamp that uses a gas discharge lamp consisting of:

1. Flourescent: TL; PL (PLC, PLCE); SL
2. Mercury: ML (tanpa ballas); HPLN (ballas)
3. Sodium: SOX (low pressure); SON (*light pressure*)
4. HID Metal Halide

This type of lamp is widely used in homes, offices, supermarkets, factories, industrial sites, streets, public parks and others.

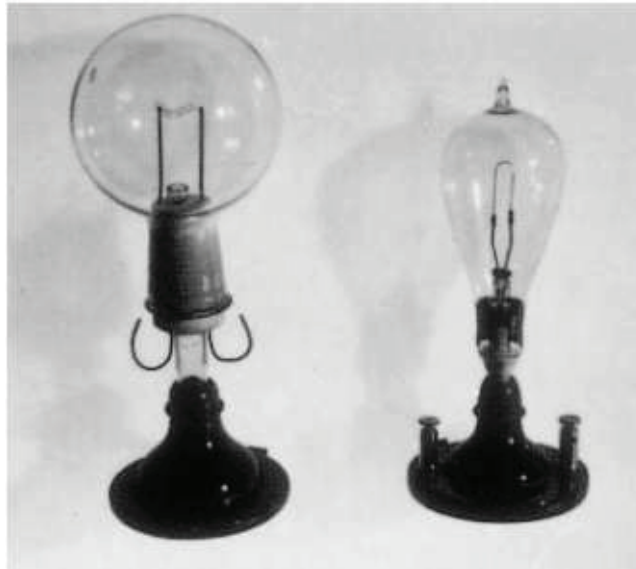


Figure 3: Thomas Alva Edison, Edison lamps, platinum and carbon filament version, as yet without the typical screw cap. (Source: Handbook of Lighting Design 1992)

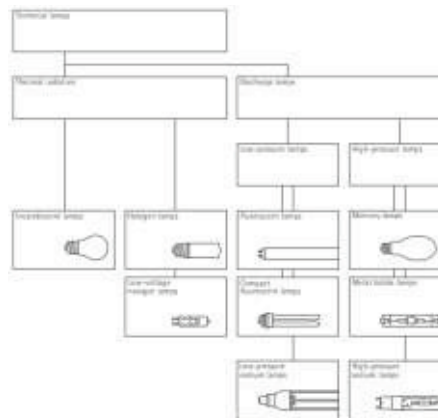


Figure 4: Representation of the different kinds of electric light sources according to the means of their light production. (Source: Handbook of Lighting Design 1992)

The end of the 20th century found a type of energy- efficient and environmentally friendly lamps, namely Lighting Emitte Diode (LED). The type of LED lights currently the best, because:

1. LED lights are more energy efficient than other options, resulting in lower utility bills.
2. They're directional, so they focus the light in one specific area.
3. LED lights are ideal for restaurants and bars that aren't looking for accent pieces or decorative lights.

LED technology is still being developed by lighting manufacturers.

4. Lighting Industry in Interior Design of Thematic Cafe in Disruptive Era

Discussing of Interior Design, then discuss about creativity, design, and beauty in the building space (architecture). According to Francis D. K. Ching (Ching & Binggeli, 2012) interior design is:

Interior design is the planning, layout, and design of the interior spaces within buildings. These physical settings satisfy our basic need for shelter and protection, set the stage for and influence the shape of our activities, nurture our aspirations, express the ideas that accompany our actions, and affect our outlook, mood, and personality. The purpose of interior design, therefore, is the functional improvement, aesthetic enrichment, and psychological enhancement of the quality of life in interior spaces.

Ching explained that interior design is layout planning and interior design within buildings. Physical conditions must meet the basic human needs for shelter and protection, influence the form of activity and fulfill our aspirations and express ideas that accompany our actions, besides that an interior design also influences our views, moods and personality. Therefore the purpose of interior design is the development of functions, aesthetic enrichment and enhancement of the psychology of interior spaces. [3]

One of the things that falls into the category of influencing our views, moods and personality is lighting in space. Without the light in human space can't be maximally active, so humans need the help of light to support all their activities, both natural lighting and artificial lighting.

4.1. Lighting

In the beginning, humans used lighting to facilitate their activities at night or indoors when it was dark. Humans do not see the lighting can affect the beauty of a space or object. The power of lighting only relies on the available natural energy. With the development of science and technology humans began to search for alternative energy.

Natural lighting that appears in nature, namely sunlight, moonlight, and starlight are the most important sources of light for life. But because the human need for light increases, humans learn to create alternative light. Understanding the fundamental difference between natural and electrical light is the beginning of understanding the source of light. The source of natural light occurs in nature and is beyond human control. These include sunlight, moonlight, starlight, various sources of plants and animals.

Electrical light sources can be controlled, more or less when and in the desired amount. This includes wood, oil, gas, electric lights, photochemical reactions, and various reactions, such as explosives. Because of superiority in terms of availability, safety, cleanliness, and remote energy generation, electric lights have replaced almost all other electrical light sources for environmental lighting. However, because man-made sources consume natural resources, natural light sources must be used as much as possible. Utilizing natural light sources remains one of the biggest challenges for architects and designers.[4]

The visible spectrum produces colors that are captured by the eye. The eye distinguishes different wavelengths from the energy waves of radiation produced and then interprets different colors. The longest wavelength in the visible spectrum is red, followed by orange, yellow, green, blue, indigo, and purple. When a light source emits relatively the same amount of energy across the visible spectrum, as in the case of the sun or a bright light bulb, the color combination of light will appear white to the human eye. However, if the light source emits energy in only a small part of the spectrum, it will produce the corresponding colored light. [1]

The development of interior design which so far only applies the beauty of finishing interior elements, furniture, and aesthetic elements, is slowly developing and supported by the advances in physics related to lighting and engineering product design in this case lamps and armatures. This development has resulted in new technology products and armature materials.

Lighting and lighting design play an integral role with the overall cafe design experience. Because 90% of the information received by the brain is through the eyes, overall design and lighting control is very important to provide the "Wow" factor that the customer expects.[5]

In managing the mood of a cafe atmosphere, improve the atmosphere in the room and make the mood of cafe visitors to be comfortable, whenever the cafe operates (morning, noon, night). The cool and colorful lighting scheme controls fresh breakfast and lunch services, and the warm lighting for a romantic mood during dinner can affect the mood of cafe visitors. There are three main kinds of lighting: ambient, task, and accent. Each type serves a different purpose and can be achieved through different lighting pieces. Theres describe each type and explain its function. [6]

1. Ambient Lighting: is the main source of light in a room, and it can be natural light or provided with electric overhead fixtures. It allows people to see and move around easily and comfortably.

2. Task Lighting allows your customers and staffmembers to perform functions that may need a more concentrated light source, like reading a menu or cooking. It can take the form of overhead lamps, bright fluorescent lights in your kitchen, or a small table lamp on your hostess stand.

3. Accent Lighting adds drama to your space. It is used to construct focal points around your front-of-house area. This can be done by using light to highlight pieces of artwork or menu boards, or you can use colourful lighting behind a bar or water fixture. Sometimes light fixtures fit into more than one category of lighting. For instance, having lanterns on an outdoor patio could be considered accent lighting during the day but ambient lighting at night, when there is less natural sunlight.



Figure 5: OKUZONO Japanese dining Jakarta (Source: Okuzono)

The Design Process is the science of design and art in making things useful for humanity, while lighting design is a lighting application including daytime when specifically used as a lighting source for the space in which humans are located. Interior design understands lighting design that depends on the standards and conventions of certain scientific principles that are set, and a number of aesthetic, cultural and human factors that are applied. Interior design understands lighting design that depends on the standards and conventions of certain scientific principles that are set, and a number of aesthetic, cultural and human factors that are applied. They face the choice between attractive space, bright space (functional) and space that uses energy efficient lighting, some resolutions such as the dilemma of technological development of lighting equipment, and the use of lighting designs more energy efficient than before.

In practical terms, light sources can be discussed in terms of the quality of the light they produce. These qualities are very important results and must be understood when choosing lighting sources. Electrical lighting sources generally require the consumption of resources, such as fossil fuels, to convert stored energy into light energy. Electric

lighting is superior to natural sources of flame due to the burning of wood, gas, and oil which produce pollution in the room when it is on. In addition, the latest technological developments in electricity can be generated from natural energy sources, which are produced by wind, water, geothermal, and solar sources.

Artificial light sources that can be seen in the design of thematic cafe interior designs are obtained from lighting that uses electricity. The quality of light applied is subjective, because many variables play a role in the perception of light quality, namely lamp life, ceiling height, room location, and natural conditions, and others. So good planning is needed. Whereas to measure light, it is needed a way to count the related light:

- Intensity
- Color
- Uniformity
- Contrast
- Glare (extreme contrast)

Through lighting, the interior ambience can truly be a personal experience or other visitors. Presentation of paintings, photographs, sculptures and other beautiful art objects requires lighting so that an in-depth understanding of its existence in space, as a medium, and each design theme applied. The concept of effective lighting follows the principles of cafe designed planning. A good and successful lighting design will cover four dimensions, namely direction - light, lighting, color and time - to create an attractive single entity.



Figure 6: Restaurant in The Dallas Ritz-Carlton Design by Johnson Studio-designed (Sources: Web ADPRO)b

4.2. Lighting Industry For Thematic Café Resto in Disruptive Era.

In a disruptive era there are a lot of changes that are happening so fast, so the world of the creative industries, especially the design of armature lamps. Innovative designs

emerge from the generation of millennial designers. As explained in the introduction, how new innovations can create new markets, disrupt or damage existing markets, and ultimately replace the previous technology. Disruptive innovation develops a product or service in unexpected ways, generally by creating new types of consumers, thereby reducing the price and design of the old one.

From the point of view of design science, disruptive is a trigger for creativity, where designers try to make something unique (uncommon). We can see that the light design is the center of attraction in the interior, the lighting is strong.

Creativity is an activity where an artist or designer pours ideas and concepts into a new work that has aesthetic value. Creativity exists in every field of science, not only in the fields of fine arts and design, so creativity is more to individuals able to convey, express concepts in creation.

James J. Gallagher dalam Yeni Rachmawati (2005:15) mengatakan bahwa "Creativity is a mental process by which an individual crates new ideas or products, or recombines existing ideas and product, in fashion that is novel to him or her "

In Nancy Amendt's writings creativity according to Gestalt means exploring beyond self-expression and entering into the dynamics of productive exchange in therapeutic relationships. Creative expressions and exchanges can be encouraged when the therapeutic process is "creative" in new ways and participants in this process have achieved optimal results by providing situations.[7]

Innovation (Creativity) as the spearhead of design, in substance cannot be separated from the world of human ideas, namely: the elements of reason (ratio, logic, thoughts, ideas) and the elements of taste (creativity, intuition, inspiration, tastes, values). [8]

1) OKOZUNO JAPANESE DINING.

For examples I will take some of the interior design Café-Resto with a specific theme around South Jakarta (Okuzono Japanese Dinning, Pagi Sore Padang Resto, Shisa Café-Resto) as a comparative study of my research, relating to the application of lighting.

OKUZONO Japanese Dinning located in Senopati is authentic Japanese Resto from Japan, precisely from Okinawa. Interior designers try to combine Indonesian and Japanese styles through the design of chandeliers located in the dining area and become part of the aesthetics of the space. The design of the chandelier, consisting of a collection of *Lampu Teplok* or *Lampu Semprong* arranged in a tiered and circular shape so that it becomes unique and beautiful when installed as chandellier. The installed *Lampu Teplok* lights do not use kerosene but have been designed to use



Figure 7: OKUZONO Japanese dining Jakarta (Source: Okuzono)



Figure 8: Corridor OKUZONO Japanese Dining Jakarta (Source: Okuzono)

electricity. What is done by the lighting designer trying something innovation, creativity, and aesthetics by utilizing traditional lights.

Designers try to combine aesthetics with technology as a solution to the design. *Lampu Teplok* that are usually placed on a wall or on a table, with iron material processing technology formed by the curve and added electrical energy to produce a new chandelier design.

Edmund Burke Fieldman formulated aesthetics including four aspects, namely function, form, structure and interaction, and meaning. The aspect of function in the context of my research as illumination, the aspect of form in the context of aesthetic design elements where there is a combination of geometric and organic shapes. The structural aspect is seen in the technical strength of the aesthetic form. While the aspects of interaction and meaning can be seen how humans react to see the unity of functions and forms to be interpreted as aesthetic elements. These four aspects are seen in one

of the designed *Teplok* chandelier found in OKOZUNO Japanese Dining. But not all visitors of OKOZUNO can interpret the aesthetics of the lamp, but at least they can feel its function as lighting.

Understanding aesthetics requires a point of seeing it, whether aesthetics as a science or as a philosophy. According to Immanuel Kant, the concept of aesthetic objectivity will lead to errors in understanding aesthetics, but he also does not deny that empirical experience is the standard in taste or size in the assessment of beauty. [9]

The case study of this lighting becomes a positive distract, when creativity enters into the development of traditional lamp shape designs into an uncommon contemporary form, resulting in a new market for the lamp design. Economic value of the lamp is increased when it functions as a chandelier with electrical energy technology.

This analysis, evidence and deeper research are needed, so that the evidence becomes more factual.

2) SHISA CAFÉ RESTO.

Shisha café restaurant is a place of typical Turkish food, so the ambience of the interior shows the beauty of Turkish works of art. The lighting applied also uses lamps typical of Turkish handicrafts, namely beautiful colorful stainedglass lamps (mosaic lamps). The difference OKUZONO, the interior design of the Shisha café restaurant lights that are used does not experience a new design exploration, but the typical Turkish mosaic lamps are installed as they should.



Figure 9: Dining Area Shisa Café Resto – Kemang (Sources: Shisa Document)

The design of round, square, hexagon, oval shaped lights remains valid, just arranging and the number of lamps each module is different, according to the designer's concept. The application of glass mosaic to Turkish lamps applies geometric shapes. Can be seen from the example lights below. Turkish-made mosaic lamp design is done manually (hand skills), so it requires skilled craftsmen.



Figure 10: Lounge Area Shisa Café Resto – Kemang (Sources: Shisa Document)



Figure 11: Turkey Lamps (Sources: Unknown Store)

3) PEGI SORE PADANG RESTAURANT.

Pagi Sore restaurant is interesting to be used as a comparison in this study. As a *Padang* food restaurant, the concept of interior design that is displayed is so different from the theme. When entering into the restaurant, we found the interior ambience looks European style, there is no touch of *Padang* style. The identity of the *Padang* restaurant is completely invisible, the aesthetic and lighting elements applied do not represent the *Padang* restaurant. In addition to general lighting, the lamp used consists of a pendant lamp and a standing lamp.

The selected design is in a classic contemporary style, in terms of shape, color and material. In general, the design of the lamps used in the *Pagi Sore* restaurant is a finished product which is then adjusted to the fusion of colonial building styles and contemporary classic interior designs.

In the production of the *Pagi Sore* restaurant case lights are no different from Shisa Café Resto, only in the production process there is a little difference. The lamps in the *Pagi Sore* use more machines (mass industry), while in Shisa the manufacturing process is more manually by humans.

The design of the *Pagi Sore* lights can be the result of mass industry with a middle-upper market share, the use of which can be applied in public buildings and homes.



Figure 12: Pagi Sore Restaurant Padang Kemang (Sources: Pagi Sore)



Figure 13: Pagi Sore Restaurant Padang Kemang (Sources: Pagi Sore)

5. Conclusion

In this study the authors tried to compare three thematic café restaurants based on the type of food of the country (Indonesia, Japan, Turkey) located in South Jakarta. The selection of these three places is random, because the three restaurants serve authentic food of each country, but in the cultivation of interior design follows the development of interior design styles and themes of the restaurant.

Comparison of the three restaurants, it can be seen how creativity follows the times and industry, but hereditary traditions can still be maintained, and can adjust market development.

Creative industry designers facing disruptive era see this as a challenge in creating. They make innovative designs with new shapes, colors, textures, and materials that can be owned by all groups of people. The impact of the disruptive era on the lighting industry seems to have no design limitations, all designs look beautiful and can be explored following a fast-paced era



Figure 14: Hanging Lamp (Sources: 21st Century Lighting Design by Allin Griffith)



Figure 15: Hanging Lamp (Sources: 21st Century Lighting Design by Allin Griffiths)

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