

# Niuweu Bowen Architecture Style toward City Visual Quality

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*Received March 11, 2022; Revised May 11, 2022; Accepted June 21, 2022*

## **Cite This Paper in the following Citation Styles**

**(a):** [1] Hilma Tamiami Fachrudin, Imam Faisal Pane, "Niuweu Bowen Architecture Style toward City Visual Quality," *Civil Engineering and Architecture*, Vol. 10, No. 5, pp. 1738-1744, 2022. DOI: 10.13189/cea.2022.100504.

**(b):** Hilma Tamiami Fachrudin, Imam Faisal Pane (2022). *Niuweu Bowen Architecture Style toward City Visual Quality*. *Civil Engineering and Architecture*, 10(5), 1738-1744. DOI: 10.13189/cea.2022.100504

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**Abstract** This study conducts to explore and identify the development journey of Niuweu Bowen architecture in Medan. This architecture developed in the Netherlands is in line with the development of Modern Architecture in Europe. Its evolution is inseparable from the Industrial Revolution that hit European countries at that time. With patterns and forms that are no longer the same as the architecture of the previous period (Renaissance Architecture), this architecture has spread to various corners of the world. Indonesia, which became a Dutch colony, also felt this influence entering the architectural formations in Indonesia. The most prominent derivative is a part of the building that elevate like a tower but is not too high from the main building. This study aims to identify the forms and characteristics of this architecture in Medan city which can add to the visual quality of the city. The study location is in Medan city, especially where there are relics of the Dutch colonial buildings. The method used is descriptive qualitative and quantitative to describe and examine the facts contained in the field and analyze them with the theories used. The results obtained are that the architecture has the same essence as Modern Architecture but is different from the play of forms and building facades. Windows, ornament, decoration, and towers have a correlation with visual quality. The presence of buildings in the Niuweu Bowen style can add to the visual quality of the city through the facade of the building appears.

**Keywords** City Visual Quality, Niuweu Bowen Architecture, Modern Architecture, Medan City

## **1. Introduction**

Colonials from several countries, such as Portuguese, English, Japanese, and Dutch, entered Indonesia, but the Netherlands gave a lot of history of plantation opening [1]. The development of Medan city cannot be separated from the history of the development of colonialism in Indonesia. During the colonial era, many foreign plantation companies establish companies and new plantation areas in North Sumatra [2]. Besides, the influence of Dutch colonialism began to take effect with the transfer of the capital of the Deli Sultanate from Labuhan to Medan in 1879 and followed by the Residency of East Sumatra in Bengkalis Riau moving to Medan in 1887. This city continued to grow and eventually became an independent city with a government system and had a mayor as the capital, the city residency of East Sumatra, and the capital of the Deli Sultanate [3].

The establishment of plantations certainly contributes to the development of the city. In line with Medan as the residency capital of East Sumatra, the acceleration of evolution to support colonialism, which was slow at that time, made many buildings appear as government facilities and office administration. The power of plantation companies is getting stronger because the Sultan of Deli gave land to be planted with plantation crops and made this area a target area for many countries to do business [4], [3], [5].

Building facilities and supporting buildings in the city of Medan are built by bringing in architects and engineers from Europe, especially from the Netherlands, to help accelerate development. The architects' knowledge that developed in Europe led to the ratio as the forerunner to the

spread of modernization, including in the Netherlands. One of them is the Medan Train station building (Figure 1), located in the Merdeka Square (Esplanade) area as the city's transportation center at that time. A culture that previously still saw history replaced with futuristic thinking in an effort to achieve glory. Modernization is the answer to rejecting the past and facing a challenging future.



Source: Medan Beeld van een stad, 1997

**Figure 1.** Medan Train Station

One of the famous architectural styles in the Netherlands is Nieuwe Bauw, or a new building as an answer to the development of modern architecture in the world [1]. A good city environment sparks outdoor activities. Buildings are an important part of the city that can improve the visual quality of the city [6]. Therefore, it is important to examine the colonial building styles that characterize the city and improve visual quality of the city.

The research question raised is how does Nieuwe Bauw Architecture influence the development of architecture in Medan that may improve city visual quality? In line with this, the purpose is to find out the development of Nieuwe Bauw Architecture in Medan which may improve the visual quality of the city. The benefit of this research is to add insight and basic understanding of the development of Nieuwe Bauw Architecture in Indonesia along with the development of Dutch colonialism at that time. This study is closely related to urban design, where the style of the building can beautify the visuals of a city. Research on historical buildings and their relation to the visual quality of the city can be done from the point of view of an observer or human and can use Pearson correlation analysis [6].

The priority of this study is that the results can be used as reference material and references about the development of colonial architecture. The results will enrich the knowledge of History, Theory, and Criticism of Architecture as a primary reference for Architectural scholarship. This research contributes to the overall

architectural development including urban design. All field data collected were explored and studied based on facts about Nieuwe Bauw Architecture.

## 2. Literature Review

Architecture is born and develops in line with the activities and culture of a place. The formation of architecture is always synonymous with cultural development. The culture formed in an area can affect its architecture. Architecture is a cultural cohesion that is interrelated with one another [7]. The culture that exists in society directly or indirectly forms a shelter and ultimately appearance an architectural form. The role of this culture can realize as physically interrelates with each other [8].

Likewise, the development of architecture referred to the development of modern architecture with a growing modern culture. This culture looks different from the previous culture, especially when it comes to traditional culture. But its evolution still exists as an answer to people's boredom with things that are ornamentation, meaning that exists and others. So the development of modern culture is also marked by the evolution of architectural styles that adopt this atmosphere. At the beginning of the modern century, the concept of thinking about art and architecture has developed far and distinctive style or spirit in one country. The passion shows in various activities including art and others. The passion in the Netherlands is called De Stijl that carries modernism and has inspired many Dutch architects, including those who work in Indonesia. De Stijl's spirit was in line with the presence of the Art Deco style used a more natural flow of decoration, supported by the influence of cubism that swept Europe at that time. This style entered and developed in Indonesia and adopted the spirit of De Stijl, which was called the Nieuwe Bauw Architecture. The Nieuwe Bauw Architecture that developed in Medan did not pursue a mere boxy shape because there were climatic factors behind it.

The building with the De Stijl concept located in Indonesia is the 1936 Bank Denis Building (now Bank Jabar), located on Braga Bandung street, designed by Albert Frederick Aalbers (1897-1961). The hallmark of the building is the boxy shape and uses the composition of horizontal fields and towers as vertical elements so that this building looks harmonious in its context. The presence of a tower at the front of the building indicates De Stijl's influence on this building. Art Deco geometric decorations are also present in the building so that the expression of the building becomes distinctively modern (Figure 2). The movement of art and buildings with the concept of De Stijl colors its development in the Netherlands as well as its colonies. The Modern architecture developed in Europe and America presents constructions with a style that is no longer eclectic to look back on or see history. Buildings tend to change the style and meaning contained therein.

Before the modern era, buildings tend to repeat the classic glory by presenting superb elements that were deemed necessary, but in this modern era, the building is no longer related to the past.



Source: id.wikipedia.org

**Figure 2.** Bank Jabar Building in Bandung 1935

The world's Modern Architecture movement tends to follow technological developments at that time. The discovery of new materials such as steel and glass made many choices in building design. The term modern building in the Netherlands knows as Niuweu Bowen (new constructions), which has sprung up a lot in big cities in Indonesia [9]. Medan is a city of business and trade visited by many traders and also does not escape the movement of Modern Architecture in the city's development. Modern influences brought by many Dutch engineers and architects have more or less influenced the architectural form. Some of the things that become the identity of Niuweu Bowen can be seen in the development of architecture in Medan. One of them is the Bank Mandiri building located on Balai Kota street, Medan (Figure 3).

The facade is the face of the building that can show its value and structure [10]. The building facade is one of the urban elements. Facades have an influence on the visuals of the city and provide an experience for the observer [11]. Visual richness depends on contrast, among other things, the contrast between windows and walls; the contrast of building materials, colors, tones and texture; or light contrast and shadows on the building surface [11]. Facade treatment is very important on the road to realize the visual quality of the city

One of the important environmental qualities is the historical value of the building. The attractiveness of the facade of a historic building is introduced by several criteria, namely color, material, and proportion [12]. Visual quality assessment depends on the extent to which the facade of the building appears consistent with its context [13]. Architectural styles, materials and forms affect the visual richness of the facades of historic buildings. Facades

of historic buildings are an important issue in today's urban design [14].

Measurement of the architectural quality of the built environment can be done through the physical features of the building. The visual elements of the facade can be identified through the mean value and the correlation between the elements. This shows the level of importance between the facade of the building and the visual quality of the built environment [14].

A complete and sustainable building facade can provide a good street view and increase the vitality of the city [15]. The visual quality of the city can be measured through the facade of the building which includes color, material and decoration [6]. The concept of visual quality depends on humans (subjective) with qualitative measurements. The visual integration of buildings located in the historical city center can maintain the identity of the place. In urban areas, harmony is needed between historic buildings and new buildings [16].



Source: travel.detik.com

**Figure 3.** Bank Mandiri Building, Medan 1929

### 3. Method

The method used in this research is a descriptive qualitative and quantitative method. The descriptive analysis method is an analytical method in which data has been obtained, compiled, grouped, analyzed, and then interpreted objectively to obtain an overview of the problems faced and to explain the results of the analysis [17], [18]. Field facts related to colonial history are the primary approach. The Architectural Search of Niuweu Bowen carries out in the early stages of the study to obtain allegations of influences on the surroundings. From this stage, initial verification carries out to ensure that there is an influence on the development of architecture in the city



of Medan. The research process divides into 3 (three) stages, namely:

- Primary and Secondary Data Collection

This stage is the first and the direct observation of the field to see architectural objects suspected to influence Niuweu Bowen Architecture. Direct and indirect observation of research is a way to observe the objective [19], [20]. Primary data collection is the condition of the building, the color of the building with its original condition, and equipped with photos of the building. Besides, secondary data in the form of relevant photographs include literature uses for this study. At this stage, measurements are made of the building facade elements with the Niuweu Bowen style, namely window, wall, color, ornament, proportion, form, decoration and tower. Measurement of each element uses an interval of 1 to 5 (unimportant-very important).

The criteria for the object of research are buildings located in the city of Medan and its surroundings, the age of the building has reached 80 years or more, the building is in decent and good condition, and is still carrying out daily activities.

- Data Compilation

At this stage, the data begin to compile and sorted from the data that has been obtained and then grouped to validate the data by existing historical facts. Observational data from all research objects in the assessment with intervals are collected in a form to proceed to the analysis stage.

The literature review carries out using typological theory to examine the form of the Niuweu Bowen Architecture. The results of this literature review are research variables as a benchmark in carrying out research. In this variable, there are research indicators to focus more on the variables used.

- Data Analysis and Conclusion Drawing

The data analysis stage is the most important in this study. It will examine the theory used in the research accompanying the study object, namely the building with the Niuweu Bowen style, especially the architectural style and façade. Inductive analysis is carried out by collecting various possible field phenomena and analyzing and drawing conclusions based on theory building. Quantitative measurement data were analyzed using pearson correlation analysis. After data analysis and discussion, conclusions and suggestions can draw be efficient for the development of science in architecture.

## 4. Results and Discussions

Colonial buildings that dominate in the early modern era are buildings with Neoclassical and Niuweu Bowen styles. These two styles are styles often found in big cities in Indonesia, including Medan. In 1915, Medan already had a Dutch mayor named Baron Daniel Mackay (1878-1962)

that was in charge of leading the development of the city of Medan. It significantly affected the planning and design of the town at that time.

Several buildings in the city of Medan that influence the architectural style of Niuweu Bowen are the Culture and Tourism Office Building, the Bank Mandiri Building on Ahmad Yani Street, and the Ria Cinema. These three buildings are located in the city center and are important buildings until now (Figure 4).

The first building is the Culture and Tourism Office Building locates on Ahmad Yani street, Medan. This area is also known as Kesawan [3]. On this street, there are many buildings inherited from the colonial government along with shophouses (Ru ko) which mostly owned by traders from China (Figure 4). The building is without ornaments, but there is an effort not to be monotonous on the side of the facade by making the windows protrude outward. There are two towers at the beginning and end of the building. The building has windows that contrast with the walls. This can add to the visual quality of the city and is in accordance with the opinion of [11].



Source: roziaja.files.wordpress.com (2016)

**Figure 4.** Culture and Tourism Office Building



Source: roziaja.files.wordpress.com (2016)

**Figure 5.** Bank Mandiri Building in Kesawan

The second building is the Bank Mandiri of fice which is located on Ahmad Yani Street opposite Medan Merdeka

Square. The facade of this office looks clean of ornamentation, only a row of glass windows can be seen at the corner and front of the building. There tower or wall raises at the corner of the building as a viewpoint in reaching this building (Figure 5). This building is free of ornaments but has good proportions so that it gives an attractive visual impression. The attractiveness of the building can be seen from the proportions [13].

The third building for the entertainment of the city's residents at that time was the Rex Cinema Building, which changed its name after Indonesia independence's day to Ria Cinema and now is Ria Restaurant. This building is in stark contrast to the surrounding environment because of its elevated tower and the orientation of the people around it (Figure 6). The architectural style and form, may

improve the façade of this historical building [14].



Source: Medan Beeld van een stad, 1997 [21]

Figure 6. Rex Cinema Building

Table 1. Correlation Analysis

		window	wall	color	ornament	proportion	form	decoration	tower	VQ
window	Pearson Correlation	1	-.866	-1.000**	.866	-.866	-.866	.866	.866	.866
	Sig. (2-tailed)		.333	.000	.333	.333	.333	.333	.333	.333
	N	3	3	3	3	3	3	3	3	3
wall	Pearson Correlation	-.866	1	.866	-1.000**	.500	.500	-1.000**	-1.000**	-.500
	Sig. (2-tailed)	.333		.333	.000	.667	.667	.000	.000	.667
	N	3	3	3	3	3	3	3	3	3
color	Pearson Correlation	-1.000**	.866	1	-.866	.866	.866	-.866	-.866	-.866
	Sig. (2-tailed)	.000	.333		.333	.333	.333	.333	.333	.333
	N	3	3	3	3	3	3	3	3	3
ornament	Pearson Correlation	.866	-1.000**	-.866	1	-.500	-.500	1.000**	1.000**	.500
	Sig. (2-tailed)	.333	.000	.333		.667	.667	.000	.000	.667
	N	3	3	3	3	3	3	3	3	3
proportion	Pearson Correlation	-.866	.500	.866	-.500	1	1.000**	-.500	-.500	-1.000**
	Sig. (2-tailed)	.333	.667	.333	.667		.000	.667	.667	.000
	N	3	3	3	3	3	3	3	3	3
form	Pearson Correlation	-.866	.500	.866	-.500	1.000**	1	-.500	-.500	-1.000**
	Sig. (2-tailed)	.333	.667	.333	.667	.000		.667	.667	.000
	N	3	3	3	3	3	3	3	3	3
decoration	Pearson Correlation	.866	-1.000**	-.866	1.000**	-.500	-.500	1	1.000**	.500
	Sig. (2-tailed)	.333	.000	.333	.000	.667	.667		.000	.667
	N	3	3	3	3	3	3	3	3	3
tower	Pearson Correlation	.866	-1.000**	-.866	1.000**	-.500	-.500	1.000**	1	.500
	Sig. (2-tailed)	.333	.000	.333	.000	.667	.667	.000		.667
	N	3	3	3	3	3	3	3	3	3
VQ	Pearson Correlation	.866	-.500	-.866	.500	-1.000**	-1.000**	.500	.500	1
	Sig. (2-tailed)	.333	.667	.333	.667	.000	.000	.667	.667	
	N	3	3	3	3	3	3	3	3	3

Source: Author

Based on table 1, it is found that the window has a strong correlation value to visual quality, where a good window design is important to give the impression of good visual quality. Ornament and decoration have a strong and significant correlation value on visual quality, meaning that the ornament and decoration are important to increase the visual quality of the building. But, building with niuweu bowen style less ornament and decoration. The results of this analysis are contradicts the opinion of [6]. The tower contained in the corner of the building has a correlation with visual quality. The tower is the sign of the building with the niuwe bowen style. Meanwhile, wall, color, proportion and form have a strong but opposite correlation with visual quality. This finding contradicts the opinion of [14].

From the three research objects, it can conclude that the most significant correlation between elements in a building with the Niuwue Bowen style and visual quality is ornament and decoration. However, the building in the niuwue bowen style has a facade without ornamentation, so this finding contradicts the research [6]. The existence of tower elements or taller building masses is the hallmark of buildings with this style. Towers are usually located at the corners and edges of buildings. This tower element is most similar to the modern architectural style in the Netherlands and applies in the city of Medan. Some Niuwue Bowen styles in Medan do not use towers, but there are parts of the building that are elevated to harmonize the appearance of the building and distinguish it from previous styles. The existence of a Niewiu Bowen-style building in Medan City provides a visual quality that is different from other places. The colonial heritage building style enriches the visuals of the city so that it can improve the quality of the city. This is in line with research [6] and [15], where the visual quality of the city can be measured through the facade of the building.

## 5. Conclusions

Niuwue Bowen's architecture is an architecture that developed in the Netherlands and brought by the Dutch East Indies government to its colonies including the city of Medan. This city, which is indeed a business city, welcomes this influence and is immediately implemented in important buildings at that time. The leverage of a different climate did not prevent Dutch architects from being creative in designing buildings in a style that was dominant in Europe at that time. It is what establishes this city as so crowded and visited by many foreign businessmen at that time. Historical buildings can enrich the visual quality of the city through a facade consisting of windows, walls, ornaments, proportions, decoration, color, form and tower. Historical buildings with various architectural styles are the main attraction of a city and are very interesting to study.

## Acknowledgments

This research based on Talenta Research 2021 (Penelitian Dasar Talenta) funds the University of North Sumatra with Contract No. 6789/UN5.1.R/PPM/2021, June 16, 2021. The authors would like to thank all those who helped carry out this study.

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