

CONTEXTUAL ROLE OF ARCHITECTURAL BACKGROUND IMAGES IN DIGITAL COMICS

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Abstract

This research aims to determine the role of architectural background images in digital comics and their proportional contribution to the overall reading interest. Digital comics are a form of media with sequential panels of images that project two-dimensional scenes positioned in a certain context. The context is presented in the background and is used as a story-building element in the comics. The study is interested in identifying important criteria of the architectural background as part of the digital comics narrative and measuring its relevance. This research uses the quantitative comparative method, with non-probability purposive sampling of 15 respondents. This research measured readers' interest in digital comics with and without an architectural background using a Likert scale and percentage interval scale to determine. Comparative analysis is done using two samples with the *t*-test. This research found that the percentage of readers' interest interval scale for digital comics with an architectural background is significantly higher in comparison with digital comics without an architectural background. The study demonstrates the various roles of architectural image as part of the story narrative, from clarification of the storyline and demonstrating representation of reality, to creating points of interest and focus.

Keywords: architectural background, digital comic, narrative, comparative analysis

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Introduction

This study explores the role of architectural background image in digital comic and measure its contribution to the interest towards the overall story narratives. According to Syma and Weiner (2013) in Veld (2015), visual narratives such as comics and graphic novels have unique communication possibilities as they combine artistic and literary regimens. Comics juxtaposed pictorial and other images in deliberate sequence, intended to convey information and/or to produce an aesthetic response in the viewer (McCloud, 1993). Growing research suggests that sequential images combined with text provide effective communication and education tools beyond just entertainment (Cohn, 2014). Comics are representations of the natural world, involving buildings and spaces to explain the background of places in comic stories.

There is a limited discussion about the efficacy and necessity of architectural background images in supporting a particular narrative within the digital comic as a form of media. The role of background or architectural background images in digital comics is often seen as an afterthought. The authors focus on architectural background images of digital comics to understand whether architectural background images are essential in supporting the flow of digital stories. The author examines the proportional contribution of architectural background in the digital comic and identifies the various roles of architectural images within forms of narrative media.

Architecture in comics

Comics are media comprising sequential panels of two-dimensional images that describe human life through their characters. Similar to architecture, comic directly engages design, spatial thinking, and experience by delivering stories on the page and constructing a spatial narrative for their characters. The visual, temporal, and spatial narrative of comics constellates in its rhythmic panels and gutters (blank space between panels) to articulate experience (Haq, 2020). The comic provides a visceral sense of space, as other than text, a drawing provides a more vivid image to the reader (Brown, 2007). On the other hand, in a rather similar way, architecture—as the art of shaping space—provides multi-dimensional structures to space while at the same time generating beauty and charm in the everyday (Mizia, 2016). Comics and architecture have more in common than it might seem at first glance, given that both are about creating living environments to be read and experienced in story and reality (Schneider, 2018).

Comics are deliberately arranged images that aim to convey information and evoke responses from the readers. The architectural representation in comic exists in the background of its panel, enabling readers to understand the characters' characteristics because architecture is an interface made by humans to make the world according to their needs and routines (Veld, 2015). Gumelar (2011) explains that the background is an additional element to enrich and enhance the characters'

personalities in a comic's story. The characters created can be seen from where they come from, their house shape, the environment, and their habitat. For example, the setting in the story is Bali; the characters do not have to dress in Balinese customs. Therefore, the houses, environment, and background will describe many indications of an atmosphere thick with Balinese imagery in appearance to support the characteristics of the character (Gumelar, 2011).

Ahrens and Meteling (2010) discuss how comics emerged in parallel with the development of the big city as a modern living space. This emphasizes how variant readings of the city (from its advertising, architecture, mass phenomena, and street life) are being incorporated into comic books. Comics have special competencies for capturing and representing urban space and city life with their hybrid nature consisting of words, pictures, and sequences on each other (Ahrens & Meteling, 2010). Comics predict interactions between occupants in architecture created by presenting narration, and the existence of buildings and spaces in comics is an essential form of architectural communication (Helen, 2013).

However, the relationship between architecture and comics is not limited solely to comic representations. Architecture depicts a form of creative process towards the creation of experience, and there are similarities between the experiences of comic readers and architecture users (Veld, 2015). In describing such similarities, De Domenico (2017) discusses the use of comics in the work of Archigrams, stating that:

The architecture of comics is an emotional architecture and often out of the pattern, which has no obligation to stand, nor to prefigure real or mimetic spaces. For these qualities the comic was a stimulus and a gym for imagination, as well as a tool with great communicative potentiality, often used in some architectural experiences, both to represent the reasons for the project and to describe effectively and immediately the project itself. (p. 4)

This study explores the existence of architecture as a background context in digital comics. The immersion of the Internet and smartphones in the reading industry enables higher accessibility of reading material from various sources around the world (Lestari & Irwansyah, 2020). The reading industry is changing with today's communication technology, giving rise to the new term called digital comics. Digital comics are comics published digitally on websites and are often popularly termed as webtoon.

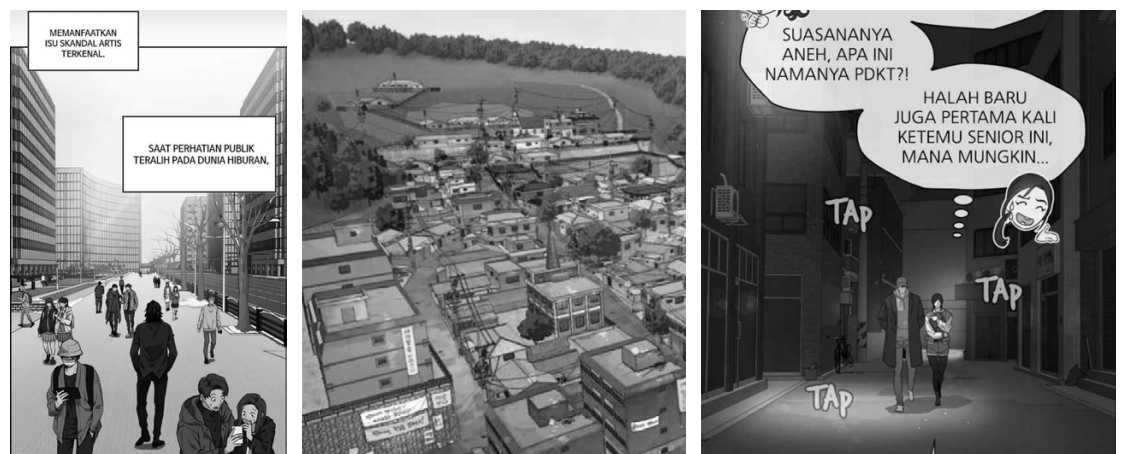
According to their uses, there are some roles of architectural elements present in comics. The first one is when the comics are chosen to communicate project ideas and architectural theory to broad audiences. The choice of language in comics as the means of representation to communicate architectural ideas is related to the need for a combination of images and words that are common to architectural drawings (Veld, 2015). The second role is how comics represent fictional scenarios that combine elements of architecture that exist in

reality with certain characters. Comics may exist as a myth, stimulating possible intervention in some contexts (Veld, 2015). Comics offer qualities that belong to both representation and communication, creating possibilities for innovative and imaginative architecture (De Domenico, 2017).

The third role of architecture in comics is to represent reality and enable readers to pedagogically gain knowledge from the history of its represented architecture and understand the comics (Veld, 2015). In digital comics, the architectural background images in the story exist in a way to demonstrate the representation of architecture in the real world, thus helping the reader construct space in the story. However, conversely, some parts of the comic sequence may instead demonstrate an absence of spatial and temporal existence in its narrative, performed to emphasize the characters' actions (Lefèvre, 2009, as cited in Veld, 2015). Nevertheless, such absence does not always appear thoroughly in the comic, demonstrating its occurrence to be complementary as a way to make the story more interesting.

The architectural background discussed in this study is related to the existence of the built environment demonstrated in the comic narrative, which may vary from the existence of buildings, spaces, interiors, and others. As previously discussed, the reader needs the architectural background to construct the contextual space in the story. One of the examples is the use of stereotypical building icons, such as the Statue of Liberty for New York or the Pyramids for Egypt, to provide ease of recognition by the readers (Lefèvre, 2006). As a background, it creates a space that surrounds the foreground, making the main object of the foreground to be the main focus (Melbourne, 2015). Space in comics can also show various meanings that indirectly contribute to the story. For example, how someone decorates or arranges his room can inform his personality, either as orderly or messy. Space expresses a certain mood or symbolises the concept underlying the scene or the overall story (Lefèvre, 2006).

Figure 1. Pedestrian street view (left) (Image by Chae Yontaek); bird's eye view of landscape settlements (middle) and pedestrian space at night (right) (Images by Lim Lina)



There are variations in the use of architectural backgrounds in digital comics. The background can convey a wider context of the city, such as pedestrian streets in urban areas surrounded by

tall buildings and people walking, or instead, a bird's-eye view of a settlement landscape (Figure 1, left and middle). Nevertheless, such a broader context of the city can be conveyed intimately, as demonstrated in the use of lighting to define the pedestrian space (Figure 1, right).



Figure 2. Depiction of a church building (left) (Image by Chae Yongtaek & Han Garam); interior of classroom (right) (Image by Lim Lina)

On the other hand, the background may demonstrate a rather specific type of architecture, such as the exterior of a church building, or describe such type in the details of the interior, such as the interior of a school classroom with students in uniform doing activities. With such variations, the study takes particular interest in addressing the proportionate contribution of the architectural background to the interest towards the digital comic, and identify various role of architectural background in supporting such interest.

Methods of study

This research uses a quantitative approach with the comparative method. A quantitative approach is a research approach that uses measurable variables and aims to expand knowledge about the relationship between such variables through hypotheses test (Creswell & Creswell, 2022), in a systematic way (Suharso, 2009). The research conducts a comparative method to compare the existence between two or more groups of samples or other outputs (Creswell & Creswell, 2022). The use of such comparative research is to find how digital comics with and without architectural background may perform differently in shaping the interest of their reader (Figure 3), based on the roles of such background in supporting the story identified in the literature review.

The object of research in this study is the captured panels with a variety of architectural background images selected from four webtoon stories. Webtoon is a digital comic reading platform in the form of a LINE webtoon application, a platform from South

Korea launched by the technology companies LINE Corporation and NAVER Corporation (Lestari & Irwansyah, 2020).



Figure 3. The altered comic panel without architectural background (left); comic panel with architectural background (right) (Image by authors, adapted from YULLO and Son Je-ho & ZHENA)

Four webtoon stories have been chosen by researchers for different reasons (Figure 4). The first one is *Eleceed*, an action fantasy comic created by Son Je-ho and ZHENA; which does not specifically discuss the architecture itself, but provides a very detailed depiction of architecture in its background image. The second one is *I'm the Max Level Newbie*, another action fantasy comic created by WAN.Z and Swing Bat, where the architecture itself is part of the story and is presented in a very detailed way. The third comic is *The World They're Dating In*, a romantic comic created by YULLO, which rarely depicts architecture in its background and does not include architecture in the dialogues of its story. The last comic is *Nan Yak*, a fantasy comic created by Hyunjoo Jeong and Jinhwan Park. Similar to the second comic, *Nan Yak* includes architecture as part of the story and provides a very detailed representation of architecture as the background.

This research uses observation and questionnaires for data collection techniques. Fifteen readers were selected as research participants. The selection uses a non-probability sampling technique with purposive sampling. The respondents had read and were familiar with the selected digital comic before the study, and they all fall in the age range of the respondents between 18–25 years. This research analyses each indicator of

the role of architectural background images in digital comics or webtoon discussed previously, such as understanding the storylines, helping readers to construct space, making the story more exciting, and influencing the story. Each indicator has 4–12 items. The total score acquired from all indicators is then divided by the maximum possible score, and then defined as the proportional interest of the respondent in the webtoon in percentage (Table 1). The measurement scale used in this research is the Likert scale to measure attitudes, opinions, and perceptions of a person or group of people about the questionnaires distributed.

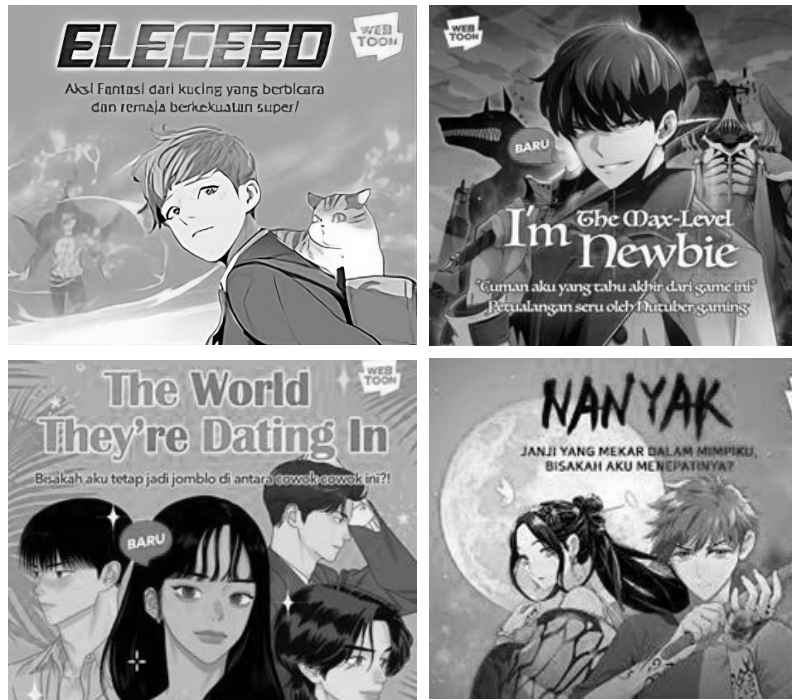


Figure 4. Four webtoon stories were utilised for the study (Images by Son Je-Ho & ZHENA, WAN.Z & Swing Bat, YULLO, and Hyunjoo Jeong & Jinhwan Park)

In addition, data collection will be carried out through some stages. The respondents first read episodes 1 and 2 of each story to re-adapt towards each of the stories. Then, the respondents were directed to read episode 3 without an architectural background, which has been digitally removed by the author (Figure 3). In response towards such reading, the respondents then filled out the first stage of the questionnaire. Afterwards, the respondents were redirected to read the original episode 3 of the digital comic with an architectural background, followed by the final stage of the questionnaire fill-out.

Interval (%)	Category
81%–100%	Very high
61%–80%	High
41%–60%	Enough/Adequate
21%–40%	Low
0%–20%	Very low

Table 1. The interest percentage scale in webtoon

This research uses the comparative analysis of two independent samples with the t-test to analyse the data by using the following formula (Siregar, 2015):

$$t_{count} = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{(n_1 - 1)S_1^2 + (n_2 - 1)S_2^2}{n_1 + n_2 - 2} \left(\frac{1}{n_1} + \frac{1}{n_2}\right)}}$$

Description:

x_i : Group measurement data i

\bar{x}_i : The average value of group measurement data i

n_i : The number of respondents to group i

S_i^2 : The variance value of group i

The research hypothesis is that there is a difference between responses towards the webtoon without an architectural background and the webtoon with an architectural background. The average value of the webtoon without an architectural background is smaller or different from the webtoon without an architectural background. The statistical hypothesis consists of H_a and H_0 , where H_a depicts some differences between responses towards webtoon with an architectural background and webtoon without an architectural background, and the average value for the webtoon without an architectural background is smaller or not the same as the webtoon with an architectural background. On the other hand, H_0 indicates no difference between responses towards the webtoon with an architectural background and the webtoon without an architectural background. In H_0 , the average value of responses toward the webtoon without an architectural background is not smaller or the same as the webtoon with an architectural background.

Reading the proportional contribution of architectural background in digital comics

Results of the questionnaire

Questionnaire items are divided into two parts, responses toward webtoon without architectural background (x_1) and responses toward webtoon with architectural background (x_2). Based on the literature review, the responses can be divided into four aspects and indicators, which are (1) the aspect adjusted to the scenario (A), with indicators of understanding the storyline (a); (2) the aspect of the architectural background as the representation of reality (B), with indicators to help readers construct space (b); (3) aspect of the architectural background for the momentary representation (C), with the story is more interesting indicators (c); (4) aspect of the architectural background, including the main focus of the story (D), with indicators influencing the story (d). Table 2 demonstrates the comparison of such variables.

The readings of the two variables above can be read based on the interest of each indicator. The architectural background aspect adjusts the scenario with indicators of understanding the storyline. In this indicator, based on the interest percentage scale in the webtoon, the webtoon with an architectural background

is 86.96% (very high), while the interest percentage scale of the webtoon without an architectural background is 53.17% (enough/adequate). The data suggests that the storyline of the webtoon with an architectural background can be better understood than the webtoon without an architectural background.

Aspect	Indicator	Interest Percentage Scale	
		X_1	X_2
(A)	(a)	53.17% (enough)	86.96% (very high)
(B)	(b)	45.67% (enough)	82.00% (very high)
(C)	(c)	50.33% (enough)	88.80% (very high)
(D)	(d)	48.22% (enough)	85.47% (very high)

Table 2. Result of comparison between aspects and indicators of webtoon with and without architectural background

The next aspect is the architectural background represents reality as an indicator to help readers construct space. In this indicator, based on the interest percentage scale of the webtoon, the webtoon with an architectural background is 82.00% (very high), while the interest percentage scale of the webtoon without an architectural background is 45.67% (enough/adequate). This data indicates that the readers can construct space better in the webtoon story with an architectural background than in the webtoon without an architectural background.

In the indicator of architectural background for the momentary representation of the story, based on the interest percentage scale in webtoon with an architectural background and webtoon without an architectural background is 88.80% (very high) and 50.33% (enough/adequate), respectively. The data indicates that the story on the webtoon with an architectural background seems to be more interesting than the story of the webtoon without an architectural background. Lastly, for the indicator of architectural background as a factor that influences the story, the interest percentage scale of webtoon with an architectural background and without an architectural background is 85.47% (very high) and 48.22% (enough/adequate), respectively. The data suggests that the architectural background image might influence the webtoon story.

Results of comparative analysis

The results of comparative analysis using the t-test in this research indicate that H_a was accepted and H_0 was rejected. H_a is accepted if there is a difference in response between webtoon without an architectural background and webtoon with an architectural background, as well as the average value of webtoon without an architectural background, is smaller or not the same as webtoon with an architectural background.

The analysis shows that t count (-6.53638) is less than -t table (-2.04841), and the average value for the webtoon without an architectural background (x_1) is 49.08 which is less than the value for the webtoon with an architectural background (x_2) is 85.54. The results from the comparison analysis indicate the average value of responses towards the webtoon without architectural

backgrounds is smaller than the value of responses towards the webtoon with architectural backgrounds, and therefore H_a was accepted, while H_0 was rejected.

$$t_{count} = \frac{49.08 - 85.54}{\sqrt{\frac{(15-1)391.62 + (15-1)75.05\left(\frac{1}{15} + \frac{1}{15}\right)}{15+15-2}}} = -6.53638$$

$$t_{table} = 2.04841$$

$$-t_{table} = -2.04841$$

Conclusion

The study explores the proportional contribution of architectural background in digital comics based on the various roles it demonstrated in supporting the overall story of the media. The roles demonstrate the significance of background in supporting the overall narrative of the comic, from better understanding of the storyline, ability to construct space, provide points of interest, and influence towards the story itself. The study measures the efficacy of such background using questionnaires that are then comparatively analysed. Understanding such efficacy becomes important to provide a more quantitative understanding of the use and relevance of architectural representation in creating contextual understanding within a form of mainstream media.

The study found that the average response value on the webtoon with an architectural background is higher than that on the webtoon without an architectural background. The role of architectural background images in the webtoon based on the four aspects and indicators states that the webtoon with architectural backgrounds has a higher percentage of interest in webtoon than the webtoon without architectural backgrounds. Therefore, it can be concluded that the digital comic with an architectural background can be proportionally better in terms of the understanding of its storyline, with more possibility for readers to construct space in the story and provide points of interest, with great influence towards the overall story.

According to the majority of respondents, responses towards the need for architectural background images in a webtoon are in the very high category, which means the architectural background images demonstrate important significance in digital comics. This study is limited in terms of the number of respondents and the number of digital comics that are being explored. Future studies may involve more participants and more variety of digital comics, to generate a more comprehensive description of the significance of architectural representation in providing context in mainstream media.

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