

# Development Phase of 2:3:5 Ratio as a Visual Composition Technique on Logo Design

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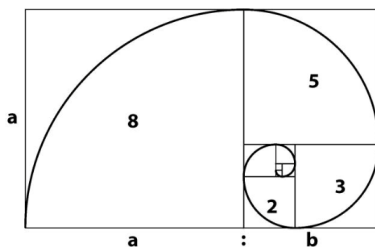
## ABSTRACT

2: 3: 5 ratio as a composition technique was first introduced in 2017 as an exploratory research paper by the corresponding author. This research is the initial part of the ratio's developing process as a visual composition technique in logo design using the experimental ratio's identification methodology on existing logos from several types of well-known company logos and then re-adjust them using the 2:3:5 ratio. The result of this paper is to provide recommendations on how to use ratio composition to achieve the best visual composition results by using ratios in design or redesign logo design.

**Keywords:** Logo, Composition, 2:3:5 ratio, redesign, experimental

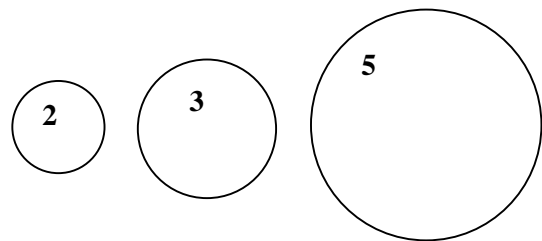
## 1. INTRODUCTION

Some logo designs of large and reputable entities are assumed to have implemented the principles of complex visual composition techniques called the Golden ratio. This ratio comes from the Fibonacci sequence that was first introduced in 1202 by an Italian mathematician, Leonardo of Pisa. Each of the numbers in that sequence is the sum of the previous two numbers of adjacent numbers in that sequence is approaching 1:1.618. This sequence then visualizes into a spiral line that represents the natural proportion that also repetitively appears in nature.



**Figure 1** Spiral line figure that appears from numbers sequence on the rectangle

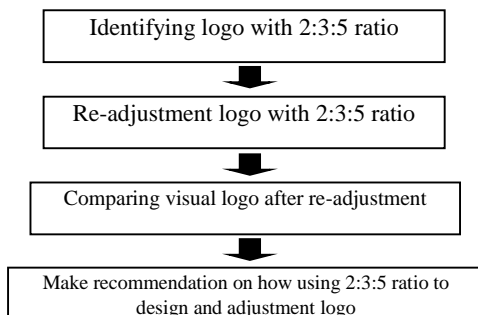
2:3:5 ratio or 'Riz ratio,' is a visual composition technique introduced by the author for the first time in ADADA International Conference 2017 to simplify a complex golden ratio for visual composition, and still maintain a sophisticated proportion from the ratio. Unlike the golden ratio, the 2:3:5 ratio is visualized using a circle as basic geometrical shape to represent each number on the ratio [1]. Further study has also been conducted by the corresponding author using the ratio's patterns behavior to form basic grid structure and variation.



**Figure 2** 2:3:5 ratio representation in circle shape

A logo is considered the face of a brand that its structures should be designed and composed to represent the brand's entity using design elements and principles. As a face, it should be easy to recognize and remember, and it should use a good proportion and harmony in element arrangements as a beautiful face should be. Therefore, as a face, one can also notice that the logo is beautiful or not because of the lack of good visual composition.

As a visual composition technique, can 2:3:5 ratio be used to identify a good composition in a logo and make an adjustment recommendation to re-arrange its element in a logo composition?. This study is to identify the 2:3:5 ratio on existing logos from several types of well-known company logos and then separated them from the assumed logo using the golden ratio and the one that is not using them. For the logo that is not using the golden ratio, this study is also trying to apply the 2:3:5 ratio to the existing logo and re-adjust them using the ratio to find how the visual composition using 2:3:5 ratio works on redesigning the logo, and therefore designing the logo. So the 2:3:5 ratio can be used to make complex composition techniques on logo design simpler and easier for logo designers. This research methodology are below on Figure 3:



**Figure 3** Methodology

**2. LOGO DESIGN**

Logo is one of many visual identities to distinguish one similar brand product from another. Logo holds one most important role as the face of representing a brand entity. Therefore, Wheeler [2] mentioned that logo that can be found as iconic, illustrative, realistic, wordmark, letterform, and also abstract form as brand identifiers along with names, taglines, supergraphics, and also jingles, should be protected as trademarks. As a brand's face, the value also increased when the logo as brand identifiers are easy to remember and timeless. However, in their timeline, some brands' logos or logotypes need the change for strategic purposes. Some of the causes are because it outdated, reaches different intended audience,

confusing, or no longer relevant due to change in internal culture or brand entity [3].

In designing a logo, the logo structure lays the foundation for being memorable. Symmetrical pattern like square and circle are often be used in that base and then latter on making a variation with the principal of art such as rhythm, balance, and many other to create a significant highlight and making noticeable variation to the logo [4]. This supports that the circle as a basic symmetrical shape is mostly an effective way to identify the logo structure.

A logo designer can come from many backgrounds, most of them are graphic designers or creative professionals who may or may not represent creative agencies or in-house creatives. In some cases, logo designers can come from unrelated educational or professional backgrounds but want to create the logo because of the lack of budget, research, nor time. Whichever their background may be, Krausse [5], mention that the logo designer should be able to reinterpret reality and find engaging ways of depicting many things like people, places, feelings, expressions, actions, and ideas.

They can use their mix of skills, personal preferences, and considering the client's needs and consider the audience. The logo designers can also express a point of view using the color system, imagery, typography, and composition that create an overall look to stand out, distinctive and able to reach the target customer's mind. Therefore, the logo's element should be arranged as a whole to unify related to the brand strategy [2].

**3. IDENTIFYING THE LOGO**

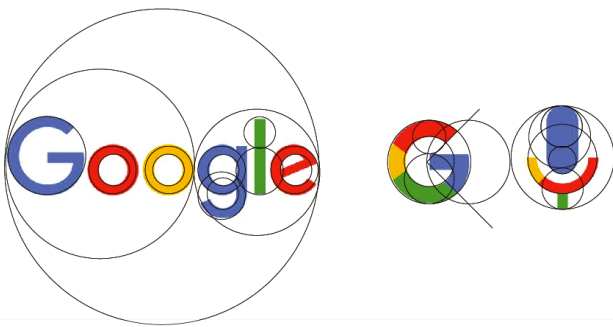
Logos used in this research are representing a well known national and international entity, and also one that is representing the author's affiliation. These logos are intentionally picked under the assumption that some of the logos were designed using a complex composition technique like the golden ratio, and some were not. This identification process was done using the 2:3:5 ratio pattern behavior from previous research by the corresponding author to maintain the ratio development's continuity and consistency. According to Rizaldi [1], the ratio behavior patterns are below:

1. Circle shape as a representation of the ratio is used for placing the elements and the alignment of the elements.
2. 2:3:5 ratio can be combined with more than one ratio and also in a whole visual or image cluster.
3. The maximum scaled of 2:3:5 ratio depends on the maximum plane size or space of elements cluster.

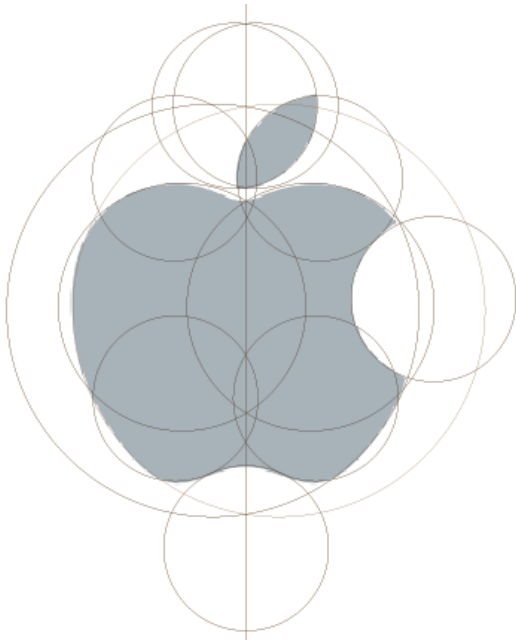
- Each circle represents the 2:3:5 ratio that can be duplicated separately but cannot be resized independently.

### 3.1. Golden Ratio Logo

2:3:5 ratio are extracted from the same Fibonacci sequence in the golden ratio, but focusing only on the first three numbers (2,3,5,...) related to nature and design. These numbers also represent the first three prime numbers that 2 and 3 are adjacent to each other, and number 5 is the sum of the first two. So, because of this relation between the golden ratio and 2:3:5 ratio, the logo designed using the same composition principle should also be identified using 2:3:5 ratio. Below are the results of identification using the ratio:

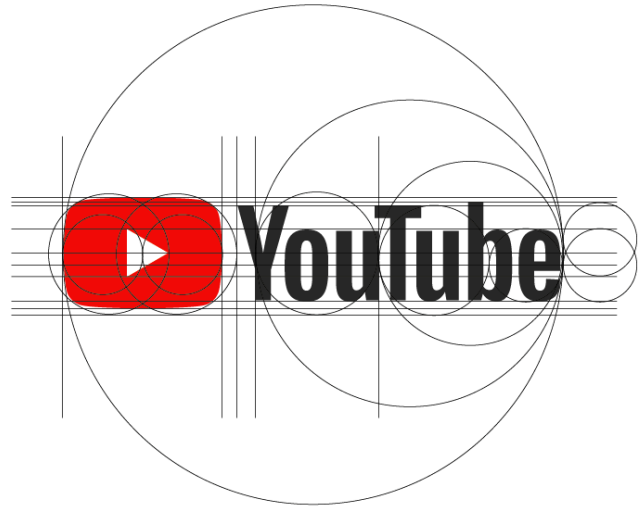


**Figure 4** Identifying Google Logo using 2:3:5 ratio. Google logo by Ruth Kedar, image source: <https://design.google/library/evolving-google-identity/>



**Figure 5** Identifying Apple Logo using 2:3:5 ratio. Apple Logo by Rob Janoff, image source: <http://robianoff.com/applelogo/>

Google and Apple logo above can be identified using the 2:3:5 ratio as it is, its element fits perfectly to the ratio, and the identification process is also simple for these logos. Figure 6, 7 and 8 below are the examples of medium to complex identification process using 2:3:5.



**Figure 6** Identifying FedEx logo using 2:3:5 ratio. Fedex logo by Landor Associates, image source: <https://newsroom.fedex.com/media-downloads/>



**Figure 7** Identifying Youtube logo using 2:3:5 ratio. YouTube logo by Chris Bettig & team, image source: <https://www.youtube.com/about/brand-resources/#logos-icons-colors>,



**Figure 8** Identifying Starbucks logo using 2:3:5 ratio. Starbucks logo by Terry Heckler, image source: <https://creative.starbucks.com/logos/>

Youtube and FedEx logo above can be identified using the 2:3:5 ratio with mid difficulties because the circles can still be connected with each ratio circle representation. Otherwise, the more complex logo design elements require a more complex identification process like on Starbucks logo above. Using 2:3:5 ratio representation, the circles are hardly in-line with each other, and the visual elements rely too much on the line position connected with the circle's edge, which in this case the logo are also identified using some of the ratio's behavior according to the grid structure [6] that grid line can be drawn straight on edge or through the center of circle shape on any degrees or angle.

### 3.2. Non-Golden Ratio Logo

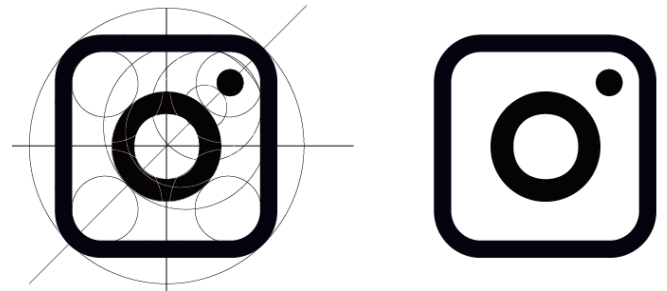
Below are examples of logos that assumed not using the golden ratio visual composition technique. This logo identification process continued with the re-adjusted logo elements and composition using 2:3:5 ratio for a comparison study of between the original logo and the differences if they were re-adjusted using the 2:3:5 ratio. This process of identifying and re-adjusting is kept optimum to as much as similar to the original logos.



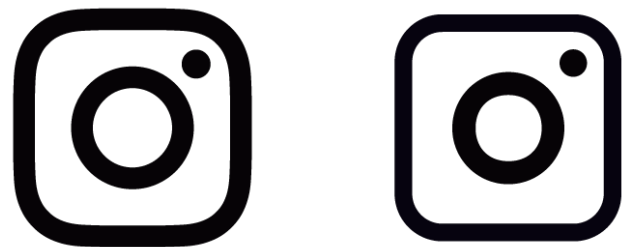
**Figure 9** (above) Identify and re-adjustment Gojek Logo using 2:3:5 ratio. Gojek logo by Gojek Creative Lab, image source: <https://gojek.design/#logo>



**Figure 10** Comparison between original (left) and re-adjustment result with 2:3:5 ratio (right). Gojek logo by Gojek Creative Lab, image source: <https://gojek.design/#logo>



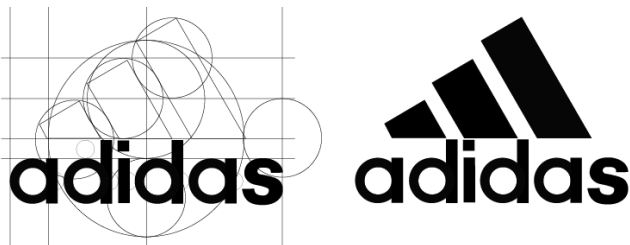
**Figure 11** Identify and re-adjustment Instagram glyph using 2:3:5 ratio. Instagram logo and glyph by Ian Spalter & Team, image source: <https://en.instagram-brand.com/assets/icons>



**Figure 12** Comparison between original (left) and re-adjustment result with 2:3:5 ratio (right). Instagram logo and glyph by Ian Spalter & Team, image source: <https://en.instagram-brand.com/assets/icon>

Gojek logo and the Instagram glyph are both catching and quite a simple composition of their elements. Using 2:3:5 ratio, these logo elements and compositions can not be fully identified, so they were re-adjusted using 2:3:5 ratio but stay close to the original composition, so that the result is even though noticeable, but not far different from the original logo. Gojek logo looks bolder at the green uncomplete circle and in the middle, and the font is thinner than the original. Instagram re-adjustment logo with 2:3:5 ratio is also made circle centerline thicker and square line thinner.

These changes based on 2:3:5 ratio can make the element shape and size in overall composition linked and interconnected, so the change of elements shape and size can determine and affect others in one composition to keep the ratio intact. On other examples, these re-adjustment effects using 2:3:5 ratio is sometimes very hard to distinguish from the original logo and almost assumed that they were designed using the golden ratio. Figure 13 through 16 below are some of the examples:



**Figure 13** Identify and re-adjustment Adidas logo using 2:3:5 ratio. Adidas logo by Peter Moore, image source: <https://www.adidas-group.com/en/media/media-center/>



**Figure 14** Comparison between original (left) and re-adjustment result with 2:3:5 ratio (right). Instagram logo and glyph by Ian Spalter & Team, image source: <https://en.instagram-brand.com/assets/icon>



**Figure 15** Identify and re-adjustment Shopee logo using 2:3:5 ratio. Shopee logo source: [shopee.co.id](https://shopee.co.id)

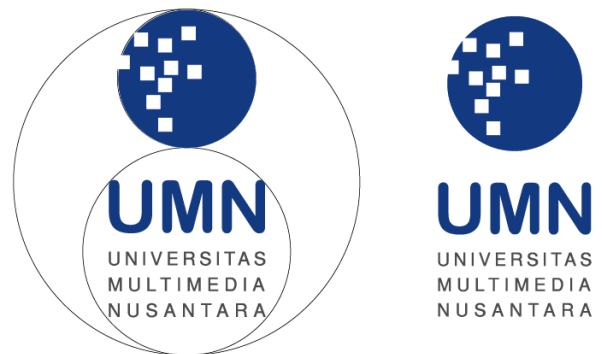


**Figure 16** Comparison between original (left) and re-adjustment result with 2:3:5 ratio (right). Shopee logo source: [shopee.co.id](https://shopee.co.id)

Adidas and Shoopee re-adjustment logos are quite similar to the original. The difference is only little and almost unnoticeable in shape, spacing, size, and tracking on letterspacing. These logos, almost believable, were designed using the golden ratio composition principle. The last example is the logo from author affiliation, Universitas Multimedia Nusantara. In the re-adjustment of this logo in figure 15 below, the author tries to use two-phase of re-adjustment using 2:3:5 ratio to enhance the pleasing composition from using the ratio.



**Figure 17** Phase one; identifies and re-adjustment Universitas Multimedia Nusantara logo using 2:3:5 ratio. UMN Logo, image source: <https://www.umn.ac.id/lambang-umn/>



**Figure 18** Phase two of re-adjustment Universitas Multimedia Nusantara logo using 2:3:5 ratio. UMN Logo, image source: <https://www.umn.ac.id/lambang-umn/>



**Figure 19** Comparison between original (left) and two phase re-adjustment result with 2:3:5 ratio (right). UMN Logo, image source: <https://www.umn.ac.id/lambang-umn/>

The two-phase of re-adjustment Universitas Multimedia Nusantara logo using 2:3:5 ratio can make the overall look of the composition better than the first phase but nearly identical with the original. The phase two of re-adjustment only focuses on binding the two clusters of elements that are logogram and logotype together within the ratio. Doing this as a final adjustment can make the logo have more balance composition, but it still needs more tests on more examples of logos to verify the assumption.

From the process above, the 2:3:5 ratio can be use to identify, re-adjustment, and redesign logo with the following behaviour:

1. Use the biggest circle (5) on 2:3:5 ratio to encompass the overall logo and contain the whole element. Use it as the logo boundaries and develop a basic grid structure as a foundation.
2. Every element on the logo starts from the basic shape, and the circle is the most flexible one to develop any shape for the logo, It starts from a simple three circles as a representation of 2:3:5 ratio to build basic composition attached inside the biggest circle (5).
3. Duplicate the ratio if necessary, the ratio duplication should be using the first three circles as a ratio's size base and duplicated from the biggest (5) downward to the middle (3) and small circle(2). The number of duplication is practically unlimited after establish point 1.
4. Develop the basic grid structure as a guideline for any logo element attachment. Keep it simple and symmetrical inside the container (the biggest circle) for easiness. The circle movement or position should always be attached to these grids, whether on the edge of the circle or through its center.
5. If the initial logo composition were developed freely and randomly, the 2:3:5 ratio can be used as a logo

tuning using the same behavior above. The same process of identification and re-adjustment.

6. Two phases of logo development and tuning can be used as the final adjustment to the first phase to enhance the overall look.

#### 4. CONCLUSION

2:3:5 ratio as visual composition technique still need to be tested further for an easier implementation for designing the logo. Overall process the 2:3:5 ratio as visual composition technique in logo design is more effectively used as a tuning, identifying, and re-adjusting logo more than used for designing the logo from scratch. How the overall logo that been re-adjusted have a more satisfying look from the original logo still have to be tested further and need to be answered for the next research of development of the ratio to confirm that the 2:3:5 ratio has the potential to reach the same satisfying and natural look as the complex composition from the golden ratio.

#### REFERENCES

- [1] M. Rizaldi, Identification of 2:3:5 Ratio as a Visual Composition Technique on Website and Android Application Mobile User Interface Design, *Asia Digital Art and Design International Journal*, No. 1. Vol. 22, pp. 14-19. DOI: [https://doi.org/10.20668/adada.22.1\\_14](https://doi.org/10.20668/adada.22.1_14)
- [2] A. Wheeler, *Designing Brand Identity: fifth edition*. John Wiley & Sons, Inc., 2018.
- [3] M. Hodgson, *Recycling and Redesigning Logos: A Designer Guide to Refreshing and Rethinking Design*. Rockport Publishers, Inc., 2010.
- [4] K. Budelmann, Y. Kim, and C. Wozniak, *Brand Identity Essentials: 100 Principles for Designing Logos and Building Brands*. Rockport Publishers, Inc., 2010.
- [5] J. Krause, *The Logo Brainstorm Book: A Comprehensive Guide for Exploring Design Directions*. HOW Books., 2012.
- [6] M. Rizaldi, Developing Basic Structure Grids for Design Layout using 2:3:5 Ratio as Visual Composition Technique using Sample of Mobile Application UI Design and Editorial Page Design, *Asia Digital Art and Design International Journal*, No. 2. Vol. 23, pp. 28-34, [https://doi.org/10.20668/adada.23.2\\_28](https://doi.org/10.20668/adada.23.2_28)