

Research on Chinese Automobile Brand Logo Design Based on Gestalt Theory

Li Zhenglin, Euitay Jung
Hanyang University, Seoul, Korea

The automobile logo is an integral part of the visual image system of an automobile enterprise brand, which utilizes graphics, symbols, words, and so on to convey enterprise information to consumers, record the enterprise's development history, help consumers understand the enterprise culture, distinguish different brands, and choose the product that meets their own needs from a large number of automobile brands. The article first introduces the theory of Gestalt psychology and related basic principles, then analyzes the characteristics of logo design, and finally puts forward the design countermeasures of Chinese automobile logos in combination with the Gestalt theory. In this way, it explores how to create the visual image of Chinese automobile brands' logo design in the context of market competition and the era of informationization. The study found a close correlation between Gestalt theory and automobile logo design. The related theories of Gestalt theory can help improve the level of automobile logo design and optimize the overall visual image design. The two are interconnected and develop together. It is hoped that this study will give some thoughts and references to the future design of Chinese automobile logos.

Keywords: Gestalt theory, logo design, automobile brand

Introduction: Research Background and Objectives

Brand logos serve not only as the visual identity of companies and products but also as a means to rapidly and intuitively convey visual information to the public. With the advancement of the new energy vehicle industry, Chinese automotive brands have rapidly emerged, and their influence has gradually extended globally. Concurrently, the logo designs of these Chinese automotive brands have increasingly met modern standards. Behind the logo design, the practice of designers relies on theoretical guidance and support, enabling audiences to effectively and accurately receive and transmit information. The introduction of Gestalt theory has paved new pathways for the form and creation of logo design. Only by understanding human visual perception and the psychological activities of the target audience can more vivid and easily communicable visual forms be innovatively created. This enriches the innovation in brand logo design and provides fresh perspectives.

This study aims to provide a clear understanding and definition of the concepts and applications of Gestalt theory through the analysis and research presented herein. Additionally, this paper aims to analyze and summarize Gestalt theory's creative thinking methods and principles. By analyzing various automotive brand logos, this study explores the role of Gestalt theory in automotive brand logo design while also providing new ideas for future design endeavors in this field.

Methods

1. Interdisciplinary research method: This approach bases itself on theories related to design studies, integrating perspectives from psychology, branding, and design studies to provide theoretical support for the research on brand logo design. It also lays the theoretical groundwork for exploring the interrelationships among design studies, psychology, and branding within the context of brand logo design.

2. Literature review method: This involves the extensive collection of domestic and international scholarly works and literature on automotive brand logos to understand the concepts, evolution, and design characteristics of brand logos. This method aims to grasp the current research status and trends in automotive brand logo studies. Additionally, literature on Gestalt psychology is reviewed to master the origins, development, and application areas of Gestalt psychology, with a particular focus on its research status within the field of art and design.

3. Content analysis method: This method selects the Top 10 international automotive brands by sales in 2023 and the Top 4 Chinese automotive brands by sales as research samples for the study. It analyzes the content and formal characteristics of these logos, revealing the design phenomena and psychological causes behind the logos of Chinese automotive brands.

Gestalt Theory

Gestalt is a word in German, which means “configuration”. This term was first introduced into the field of psychology by Christian von Ehrenfels in Austria in 1890. Since the beginning of the 20th century, psychologists have done a lot of research on the application of this theory in various fields, exploring how to make our eyes and brains work together. The core concept of Gestalt theory posits that individuals tend to organize their perceptions into cohesive wholes or structures rather than as isolated elements. Gestalt theory underscores the significance of wholeness, organization, and structure, suggesting that human perception and cognition depend not only on the characteristics of individual elements but also on how these elements are organized and interact within the whole. After the 1930s, the Gestalt school of psychology gradually extended its research from psychology to visual perception, linking cognitive psychology with human visual senses and forms. This expansion has had a significant impact on the field of visual communication design.

In the field of psychological theory, the Gestalt principles encompass five fundamental laws: (1) The Law of Similarity, (2) The Law of Proximity, (3) The Law of Continuity, (4) The Law of Closure, (5) The Law of Simplicity (Table 1).

Table 1

Gestalt Five Fundamental Laws

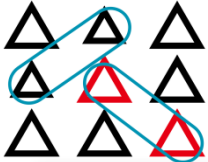
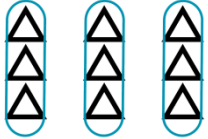
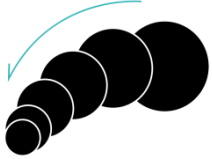
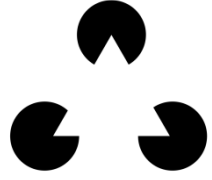
Gestalt theory	Instruction	Case
Law of Similarity	The Law of Similarity is a principle that makes it possible to recognize elements of similar characteristics as one, with a tendency to group similar visual elements, such as shape, size, and color, into one pattern first.	
Law of Proximity	Vision perceives and associates similar elements such as position, form, color, and distance as a whole.	

Table 1 to be continued

Law of Continuity	Visual perception follows a continuous arrangement of elements. Sudden changes can be uncomfortable for the brain, so the visual orientation favors the continuation of a continuous, gentle pattern.	
Law of Closure	For a figure that is close to complete, even if the structure is incomplete, visual perception will recognize the missing part as a complete form after replacing it. The Law of Closure is the most commonly used law in the design of visual identity systems.	
Law of Simplicity	When exposed to new information, people are prone to choose the easy way to receive information.	

History of Logo Design

Logo design, as a significant branch of visual communication design, has a long history marked by continual transformation. The earliest prototypes of brand logos were totems, which appeared in primitive tribes and were regarded as symbols. The actual development of logos began with their integration into commerce; the burgeoning capitalist commodity economy era represented a golden age for logo development. As society and corporate brands evolved, logos gradually merged with brand identity, becoming symbols of the brands and evolving into what we now refer to as brand logos.

Logo Design Components

Brand logos can be categorized into three types based on their compositional elements: text-based, image-based, and combined text-image. These logos exhibit aesthetic qualities, differentiation, readability, and brand positioning through three primary elements: images, color, and text.

1. Images play a crucial role in logo design, enhancing visual appeal but also aiding in communicating a brand's core messages and values. The advantages include ease in creating distinctiveness and resonance with consumers. However, some graphics may suffer from low readability.

2. Color is one of the design elements that can express individuality. The advantages of using color include effectively representing the positioning of a product or brand and conveying atmosphere. For example, red evokes a fiery sensation, while blue provides a cool and refreshing feeling.

3. Text in logos is characterized by its ability to convey the brand name directly. Text-based brand logos are simple and easy to remember, enhancing brand recognition. However, they may need more visual elements and offer more expression of brand personality.

Principles of Logo Design

Brand logo design is a crucial component in the construction of a brand's image, adhering to certain fundamental principles to ensure the logo's effectiveness and lasting impact:

1. **Identifiability:** Brand logos have two significant roles: ease of recognition and recall than textual information. When retrieving a brand from memory, logos provide more cues that aid in recall, enabling consumers to quickly identify the target brand among competitors. The identifiability of a brand logo allows consumers to quickly recognize and learn about the brand. A well-visualized logo deepens the consumer's impression of the brand, aiding in the memorization of the logo, and influences the consumer's associations with the brand.

2. Unity and harmony: The unity and harmony of a brand logo are primarily demonstrated through the coordination of colors, the combination of fonts and patterns, and the alignment of the logo with the corporate culture and product characteristics. This not only creates a sense of pleasure and cohesion but also conveys the design's rich cultural and emotional content. The unity between the brand logo and corporate spirit, brand philosophy, and product traits means that the design of the logo should harmonize not only physical features but also convey the ideas of the enterprise and brand to the consumer through the logo's design, achieving internal coherence between the logo, the enterprise, the brand, and its products.

3. Simplicity and aesthetics: Simplicity and beauty are fundamental requirements consumers have for brand logos. Consumers have direct aesthetic demands for products and hold aesthetic standards for brand logos. A simple design is easy to recognize and remember and ensures its integrity across different media and sizes. Overly complex logos can distract the consumer and reduce the logo's recognizability. A minimalist design, by eliminating unnecessary elements and focusing on the core concept, effectively conveys a brand's main message.

4. Cognitive significance: Brand logos differ mainly from artistic text, graphics, and patterns because they possess significant cognitive meaning, which is imparted by the combination of the enterprise, brand, product, and consumer preferences. Brand logos ingeniously integrate corporate culture, product characteristics, brand philosophy, and consumer preferences through a combination of colors, lines, and patterns, presenting these elements to the consumer through the logo. Because of the cognitive significance of brand logos, consumers find them easier to understand and remember.

The Application Strategy of Gestalt Theory in Brand Logo Design

1. Simplicity principle: The simplicity principle in Gestalt psychology theory emphasizes directly highlighting the essential structural features of shapes and objects by simplifying the graphics. This approach facilitates the portrayal and memorable emphasis on the graphic's intrinsic characteristics. Consequently, when applying the simplicity principle in brand logo design, it necessitates the reduction of non-essential elements within the graphic, thereby accentuating the fundamental features and enhancing the overall amount of information conveyed by the graphic's main subject. Such treatment significantly boosts the logo's visual impact and expressiveness, thereby clarifying the message conveyed by the logo and enabling viewers to immediately grasp the theme intended by the designer upon seeing the design. For instance, in the process of redesigning the brand logo, the fast food brand KFC introduced a new logo that is simpler and easier for consumers to understand than the old design. The new logo strips away unnecessary information, making it easier for the consumer's brain to recognize and enhance memorability (Figure 1).



Figure 1. KFC logo change process.

2. Figure-ground principle: The figure and background are the most ubiquitous and crucial elements. Designers often adjust the logo's figure and background to have a stark contrast in logo design. This frequent presentation, in contrast, is because visual contrasts make it easier for viewers to locate the critical information. In logo design, the greater the distinction between the figure and the background, the more noticeable and memorable the logo becomes. This also serves as an effective method to increase the visual impact of logo design. As illustrated, there are various ways in which the figure and background can be depicted in logo designs, yet the visual effect produced for consumers remains consistent.



Figure 2. Nivea logo, Uniqlo logo and salesforce logo.

3. Closure principle: The closure principle is one of the most fundamental organizational principles within Gestalt theory. Incomplete shapes or those with gaps often provide a visual stimulus that feels novel and intriguing to viewers. This is a distinctive manifestation of how the closure principle guides the unique content in logo design. Visual perception is highly proactive, and there is often a tendency to “complete” these perceptions during observation. For instance, in the logo design of the World Wide Fund for Nature (WWF), the closure principle is cleverly used to define the characteristics of a panda without the need for excessive detail. The black patches around the eyes, ears, and body are distinctive features of the panda, making it easily recognizable to viewers.



Figure 3. WWF logo.

4. Similarity principle: The similarity principle is one of the organizational principles of visual perception, which posits that visual elements similar and close to each other in the field of view are likely to be perceived as a group, thereby forming a cohesive whole. This perceptual integration helps create more organized, easily recognizable, memorable visual images. For instance, PayPal's logo design primarily consists of two “Ps” as its initial letters, enhancing brand recognition and visual appeal. Similarly, the famous automobile brand Audi utilizes similarity principle in its logo design, where four interlinked circles represent the merger of four independent automobile manufacturers in the early 20th century, narrating the brand story behind the formation of Audi. This also enriches the brand image of Audi automobiles (Figure 4).



Figure 4. PayPal and Audi logos.

Analysis of Automobile Logo Design

Automotive logos, serving as symbolic emblems, encapsulate the functional and spiritual connotations of automobile culture to a certain extent. As a manifestation of corporate identity, these logos are pivotal for consumer recognition. They promote corporate products through a method that is succinct and effective, swiftly and directly conveying the spirit and philosophy of the enterprise. This makes them an essential visual medium through which consumers can become acquainted with and understand a company. The composition of automobile brand logos is categorized into three types: text-based, image-based, and a combination of text and image. This study focuses on the Top 10 best-selling automobile brands of 2023, analyzing the characteristic elements of logo design and their application in Gestalt psychology.

Table 2

The Analysis of the Top 10 Best-Selling Automobile Logo Design

Brand name	Brand logo	Logo design components		Application of Gestalt theory
		Image-text	Color	
TOYOTA		Image: The logo comprises three interlocking ellipses, and its shape conveys a sense of speed and fluidity, associating it with automotive design. The overall design is simple yet highly recognizable. Text: The logo does not incorporate text directly. Instead, the interaction of the three ellipses cleverly forms the word "Toyota", ingeniously integrating the text within the graphic element of the logo.		• Simplicity principle • Figure-ground principle • Closure principle ◦ Similarity principle
VOLKSWAGEN		Image: The logo is overall circular, symbolizing completeness, unity, and infinity. This simple geometric shape is also visually easy to recognize. The choice of a circle represents Volkswagen's globalization and inclusiveness. Text: The letters "VW" in the logo stand for Volkswagen, and the typography is designed in a sans-serif, balanced, and symmetrical, conveying a sense of reliability and solidity.		◦ Simplicity principle • Figure-ground principle • Closure principle ◦ Similarity principle
HYUNDAI		Image: The company logo consists of an elongated ellipse, and encircles the emblem. The ellipse is commonly associated with harmony. Text: Within the ellipse is a stylized "H", representing the initial of Hyundai Motor. The "H" is presented in italics, conveying a sense of motion and progress. Beneath the logo, the word "HYUNDAI" is written in bold, sans-serif typeface. This font style reflects modernity and accessibility, while capital letters demonstrate strength and sturdiness.		• Simplicity principle ◦ Figure-ground principle • Closure principle ◦ Similarity principle

Table 2 to be continued

JEEP		Image: / Text: The logo employs bold typography, creating a solid and impactful visual effect. The weight of this font conveys a sense of sturdiness and durability, qualities that align with the rugged image of the Jeep brand. The logo features a sans-serif font, which gives it a clean and modern appearance. Sans-serif fonts are commonly used to embody simplicity and a contemporary design aesthetic.			• Simplicity principle ○ Figure-ground principle ○ Closure principle ○ Similarity principle
NISSAN		Image: The logo is presented in a circular shape, imparting a sense of wholeness and continuity. Circles are often used in logos to symbolize unity, stability, and protection. Text: Using of a bold, sans-serif font provides a modern and robust presence. This choice of typography conveys a sense of robustness and clarity.			• Simplicity principle • Figure-ground principle • Closure principle ○ Similarity principle
BUICK		Image: Three shields are aligned in a row, each encased within its elongated silver outline. Historically, these shields represent the heraldic emblem of the Buick family and exemplify the brand's heritage and longstanding history in the automotive industry. Text: Below the shields, the word "BUICK" is written in a bold, uppercase, sans-serif font. This clean, modern typography reflects the brand's transition towards a more contemporary image.			○ Simplicity principle ○ Figure-ground principle ○ Closure principle • Similarity principle
HONDA		Image: The logo features a rounded rectangle shape. This shape merges concepts of innovation and approachability, where the rectangular form suggests stability and reliability, while the rounded edges add a softer, more consumer-friendly feel. Text: The prominent feature of the logo is the bold red letter "H", representing the Honda automotive brand.			• Simplicity principle ○ Figure-ground principle ○ Closure principle ○ Similarity principle
FORD		Image: The Chinese characters in the logo are encircled within an oval shape, which enhances the sense of integrity and continuity. A fine white outline traces the oval, adding depth and detail to the overall design. Text: The most prominent feature of the logo is the handwritten "Ford", which imparts a personal touch to the logo, as if signed by the company's founder, Henry Ford. This font conveys the company's and its founder's commitment to quality.			○ Simplicity principle • Figure-ground principle • Closure principle ○ Similarity principle
BYD		Image: The logo employs Gestalt principles, particularly closure principles, notably evident in the letters "B" and "D" to create visual interest. Text: The typeface is a sans-serif, contributing to a stylish and clean visual image for the automotive brand. The "BYD" lettering is highly stylized with sharp angles and straight lines, exuding a sense of modernity and technological sophistication.			• Simplicity principle ○ Figure-ground principle • Closure principle ○ Similarity principle
SUZUKI		Image: The logo emblem features a stylized red letter "S" that represents Suzuki. The "S" shape is bold, with elongated curvilinear forms, conveying a sense of dynamism and vitality. Text: Beneath the logo, the company name "SUZUKI" is presented in a bold sans-serif typeface, with capital letters that convey a sense of strength and authority.			• Simplicity principle ○ Figure-ground principle • Closure principle ○ Similarity principle

We can discern current trends in automotive logo design by analyzing the compositional elements of the logos of the Top 10 automobile brands by sales volume in 2023 and their application of Gestalt theory. Many automobile brands opt to simplify their logos, using clean lines and simple color schemes to highlight their symbols. Some have transitioned from complex emblems to flat, gradient-free designs. In terms of color use, most automotive brands choose colors with higher chroma or lower brightness, which, according to the PCCS analysis, make the brand logos more striking, sophisticated, and formal. Many brands select recognizable and symbolic hues, such as red, which denotes passion and speed, or blue, which signifies technology and reliability. Most brands use sans-serif fonts in text design to meet more modern requirements. However, some brands use handwritten or serif fonts to emphasize their unique identity, reflecting the brand's history and enhancing brand recognition. Gestalt principles offer insights for improving logo design by emphasizing the visual form and content of images, and the psychological impact on the graphic design's audience. The four principles of Gestalt theory applied to logo design ensure that the final product effectively expresses the brand's philosophy while being more narrative and engaging.

Among the four principles of Gestalt, the simplicity principle is the most frequently employed in logo design. Focusing on simplicity yet retaining a rich underlying meaning, graphic design aims to convey a message that resonates with the audience using the simplest form possible. For example, Nissan's logo previously featured a metallic sheen, echoing the metal texture of the automobile's exterior. However, excessive details like lighting and color gradients required more cognitive effort from consumers. In contrast, a more straightforward expression of the critical content in the logo made it easier to enhance consumer recall. The figure-ground principle also plays a crucial role, as the content of the figure is better highlighted against a contrasting background. Logos are often designed with colors that complement the brand style, making the main content stand out vividly against the background. The closure principle adds an element of fun to logo design and increases consumer recall points. For instance, BYD's logo design splits the letters apart, and the brand concept is to "open closed spaces and create more touchpoints", allowing the brand theme to be more effectively communicated. Lastly, the similarity principle, which involves combining similar elements, helps consumers perceive the logo as a cohesive whole. Similarity promotes the unity of the logo design and also conveys its meaning. For example, Buick's logo features three shields, representing the three founding families of Buick, thus highlighting Buick's rich brand culture and history.

China Automobile Logo Design Analysis

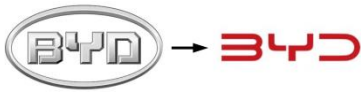
Since 2000, Chinese indigenous automobile brands have successively exported their products to over 80 countries and regions. These brands have made significant advancements, continuously improving their product structures and gaining a higher market share, which has led to increasing recognition in the international market. The enhancement in market share and sales is directly related to consumer attention and approval. The automobile emblem, serving as a symbol of the brand's reputation, also garners consumer interest. With the development of China's automotive industry, there has been a growing emphasis on the design of automobile logos. This paper analyzes the logo design upgrades of the Top 4 Chinese automobile brands by 2023 sales, namely BYD, Geely, Changan, and Chery. These analyses explore how these brands have evolved their logos to represent their identities better and appeal more effectively to a global audience.

Through the analysis of Chinese brand logo design, Chinese automobile brands commonly use the Gestalt theory in logo design to innovate the logo design and to express the brand concept. The creation of automobile

brand logos is based on the comprehensive application of brand concepts and design principles. Although, with the development of the times, Chinese auto brand logos have become more modernized and in line with international design styles, some Chinese elements and Chinese regional expressions still need to be included. Chinese auto brands need to find their unique brand spirit and connotation. Only by finding unique brand connotations and spirits that are different from other brands can they shape exclusive emotional expressions and inject them into the brand logo to gain consumers' recognition.

Table 3

The Analysis of the Chinese Automobile Logo Design

Brand name	Logo design history	Gestalt theory application	Gestalt theory application analysis
BYD		• Simplicity principle ◦ Figure-ground principle • Closure principle ◦ Similarity principle	Simplicity principle: It reduces the gradient change of color and enhances consumers' attention. It also reduces the thickness of the text, making the logo more fluent as a whole. Closure principle: The new logo design splits the letters, and the design concept given by the brand is: "Open the closed space, create more contacts". Integrating the completion principle allows the brand to better express its theme. Simplicity principle: Compared to the old version of the logo, the new version of the logo overall new logo has more texture and technology, reducing the technical texture, which also corresponds to Geely Automobile's transformation from the original fuel vehicles to new energy vehicles.
GEELY		• Simplicity principle • Figure-ground principle ◦ Closure principle • Similarity principle	Similarity principle: The new design retains the image of the six jewels in Geely's original logo; the jewels are neatly arranged to make them look more like a whole, retaining the original brand beliefs and the brand concept. Closure principle: The logo looks more like a shield, giving consumers a sense of safety and security. Simplicity principle: The new logo follows the trend of digital experience by reducing unnecessary and complex decorative elements, monochromatizing the plane, and clearly distinguishing the core elements, which aligns with the new trend of youthfulness and digitalization of users.
CHANGAN		• Simplicity principle • Figure-ground principle ◦ Closure principle ◦ Similarity principle	Figure-ground principle: In the previous logo background, the central letter "v" was wrapped by two silver rings, but the distance between the rings was too long, which did not allow consumers to focus on the main body of the logo. The logo design innovation shortened the distance, which increased consumers' attention to the main body of the logo.
CHERY		• Simplicity principle ◦ Figure-ground principle ◦ Closure principle ◦ Similarity principle	Simplicity principle: The earliest logos used a more complex, three-dimensional design with more detail and shading effects than later logos. Newer logos are much simpler and have a flat design, which is very popular in modern brand identities.

Discussion

This paper focuses on the research of Chinese automobile logo design under the perspective of Gestalt theory and summarizes the visual characteristics of the Gestalt principle in graphic design through the basic research of

Gestalt theory: Simplicity principle evokes the viewer's ideal emotion and facilitates the reading and dissemination of the design; closure principle can skillfully lay out the layout space, which promotes the fusion of the graphic design with the shape and increases the interest of logo design; similarity principle can unify the local details of the whole design and increase the sense of brand story and history; figure-ground principle enhances the active composition and facilitates the formation of visual focus. The similarity principle can unify the details of the whole design and increase the sense of brand story and history; Gestalt theory connects psychology and design with its unique advantages, bridging the gap between sensibility and rationality. Logo design, according to Gestalt theory, is a kind of creative design. In the process of logo design, the value and significance of Gestalt theory lies in the fact that, on the one hand, it realistically influences the manifestation of things. On the other hand, Gestalt theory influences the audience's cognition, aesthetics, and emotion through the visual carrier.

With the development of the times and the gradual enhancement of people's brand concept and aesthetic level, after the relative improvement and enhancement of the material life, the demand for spiritual culture and emotional needs began to increase. Through the analysis of international automobile logo design, this paper finds that the development of international brand logo design is relatively perfect, and the Chinese automobile logo design is still missing some Chinese localized elements. However, it is in line with international automobile brands in terms of appearance. Based on the research in this paper, the use of Gestalt principles to shape the automobile logo and its brand connotation and product appearance maintains consistency so that consumers can experience the subtle formation of the brand's feelings. Therefore, when designing an automobile logo, the brand connotation should be presented in the form of a logo through shape and color while accurately grasping the characteristics of the localized design elements, coordinating the relationship between localization and internationalization, and arousing consumers' emotional resonance to obtain the enhancement of brand loyalty.

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