

Research on Dynamic Poster Design in the Digital Age

Yu Wang *, Yiye Li ^a

Wuhan Textile University, Wuhan, Hubei, China

* Corresponding author: Yu Wang (Email: 1208405880@qq.com), ^a 2095402780@qq.com

Abstract: At present, with the improvement of social living standards, people's aesthetic needs are becoming more and more important. At the same time, the acceleration of the pace of urban life has caused the fragmentation of daily time, so how to catch the eye of viewers in a short time has become the first essence of poster publicity. Dynamic posters not only have more visual impact than traditional static posters, easy to leave a deep impression on the viewer, but also can be widely spread in the Internet and daily life. This paper discusses the artistic expression of dynamic posters, the advantages compared with static posters, and the design characteristics of dynamic posters, which provides some theoretical references for the field of dynamic poster design.

Keywords: The Digital Age; Dynamic Poster; Poster Design.

1. The Status of Posters in the Digital Age

1.1. Design Status in the Digital Age

Digitalization leverages various technologies such as artificial intelligence, mobile technology, communication technology, social networks, the Internet of Things (IoT), big data, and cloud computing to reconstruct the physical world within virtual spaces. This is achieved through various forms of "connections," technological innovations, and diverse methodologies. Digitalization has significantly benefited the design industry, particularly in four key areas: streamlining the design process, introducing new design media, lowering the barriers to entry in design, and creating new employment opportunities.

In terms of streamlining the design process, the digital era has drastically reduced the time required for designers to produce drafts, while also enhancing the precision and detail of their work. With the support of computers, the inefficiencies and irreversibility of traditional design methods have been overcome, leading to substantial improvements in designers' productivity.

Regarding new design media, every era produces its own corresponding mediums, and the impact of today's digital media on our era is undeniably profound. For design, digital media has transformed traditional graphic design into "screen-based design," breaking the limitations of two-dimensional space, conveying more information, and enabling interaction between designers and their audiences.

As for lowering barriers to entry in design, the digital era has made it easier for individuals to enter the design field. In the future, as digitalization continues to develop, it is possible that "everyone could become a designer." However, in this context, "designer" does not refer to a designer in the traditional sense, but rather to those who directly use AI to create commercial images. Besides mastering new digital technologies, possessing strong design skills remains crucial; otherwise, there is a risk of being phased out. While digital technology brings us new opportunities, it also presents undeniable challenges.

In terms of creating new employment opportunities, as technological advancement and the internet continue to develop, countries around the world have begun to launch

national digitalization strategies, initiating and accelerating the process of digital transformation. Companies in various sectors are also speeding up their digital transformation efforts, issuing corresponding digital strategies. Therefore, in the coming years, industries related to digital visualization and digital twins, which support digital transformation, will see significant market demand, leading to the emergence of new professions such as VED (Visual Experience Design) visualization designers.

1.2. Development of Poster Design in the Digital Age

The interactive dynamic poster that has appeared in recent years refers to a complex interactive dynamic poster completed by means of digital technology (including touch screen technology, gravity sensing technology, depth sensing technology, motion capture technology, face scanning technology, eye tracking technology, etc.).

The dynamic effect runs through the main visual elements of the dynamic poster, including text, color matching, layout, graphics, etc. The dynamic effect changes the more diversified art forms of these elements in the form of expression, and through the cross-media combination of vision, hearing and touch, the viewer can have more resonance in the vision, hearing and touch, thus creating a specific situation and atmosphere.

With the rapid advancement of technology, digitalization has gradually permeated various sectors of society, profoundly impacting information dissemination and daily life. The maturation of technologies such as artificial intelligence, big data, and cloud computing has enabled us to handle information more efficiently and precisely, redefining human communication, work, and entertainment. Concurrently, digitalization has accelerated the globalization process, facilitating more convenient and frequent cultural, economic, and intellectual exchanges across the globe. In this fast-paced digital era, societal transformations are occurring at an unprecedented rate, with technology-driven innovations shaping various aspects of the future. Recent developments, such as interactive dynamic posters, exemplify the creative achievements of this era in design. Utilizing digital technologies like touchscreen, gravity sensing, depth sensing, motion capture, facial scanning, and eye-tracking, these posters achieve complex interactivity.

Against this backdrop, poster design has undergone significant evolution due to technological advancements and media diversification. These changes have not only transformed the design process and style of posters but have also expanded their application and dissemination methods. Initially, poster design has shifted from static images to dynamic formats. Dynamic posters, through animations, videos, and GIFs, render content more vivid and engaging, effectively conveying complex information. On social media platforms, dynamic posters are disseminated as short videos or GIFs, enhancing interactivity and shareability.

Digitalization has also introduced enhanced interactivity to poster design. Interactive posters allow users to engage with content through touch, clicks, and other methods, increasing user engagement and enabling dynamic content adjustments based on user feedback. For instance, digital billboards and exhibition posters can alter content in response to viewers' movements or expressions, adding a personalized touch to the design. Furthermore, poster design must accommodate various end devices, including smartphones, tablets, and computers. Designers need to consider different platforms' resolutions, screen ratios, and interaction methods to ensure visual consistency across devices.

In the digital age, poster design emphasizes personalization and data-driven approaches. Through big data and AI technologies, designers can tailor poster content to users' interests and behaviors. For example, posters in digital advertising can be personalized based on users' search histories, social media activities, and geographic locations, increasing the relevance and appeal of advertisements. Additionally, virtual reality (VR) and augmented reality (AR) technologies have introduced new expressive forms to poster design. With AR, static posters can become "alive," allowing users to scan them with smart devices to view animations or 3D models, and even interact with virtual elements. VR provides an immersive experience, expanding traditional two-dimensional posters into three-dimensional spaces.

In terms of environmental sustainability, the rise of digitalization has reduced the use of paper posters, minimizing resource waste. Designers are increasingly incorporating eco-friendly principles by utilizing digital distribution methods to reduce the use of physical materials. Moreover, advancements in digital tools and platforms have enhanced the efficiency of collaboration in the poster design process. Designers can now collaborate in real-time using cloud-based tools, improving design efficiency and project quality.

Visually, poster design in the digital era is more diverse and avant-garde. Designers employ digital tools to achieve complex visual effects, such as 3D designs, dynamic animations, and gradient colors, making posters more artistic and personalized. Digitalization has also propelled the global dissemination of poster design, enabling designers to share their work worldwide. This globalization trend fosters cultural integration, with designers incorporating diverse cultural elements to appeal to audiences from various backgrounds. Digitalization has made poster publishing and updates instantaneous, allowing designers to quickly adjust content based on real-time feedback, optimizing advertising effectiveness and enhancing market adaptability.

2. Dynamic Poster

2.1. Artistic Characteristics of Dynamic Posters

Dynamic posters are a product of the integration of traditional static posters with new media technologies, typically appearing in the form of GIF animations. These dynamic posters introduce a new mode of presentation for posters and enhance the interactivity and connection between the poster design and the viewer. Consequently, dynamic posters have garnered significant attention both within and outside the industry, with their outstanding artistic expression and efficient dissemination making them highly favored in the commercial sector. The artistic characteristics of dynamic posters are primarily reflected in three aspects: graphics, color, and layout.

Similar to traditional static posters, dynamic posters feature graphic elements, but they also incorporate dynamic visual effects. These effects transform the poster from a static image into a continuous, visually impactful dynamic image through adjustments to the timeline and the combination of graphics. The distinguishing feature of dynamic posters compared to static ones is their repetitive transformation, which extends the temporal axis in the spatial context, making the spatiotemporal nature of the visuals more pronounced [1]. The graphic elements in dynamic posters often exhibit diverse color combinations and expressive forms, offering a more creative and direct representation of the theme.

In terms of color, when people observe objects, light falls on the retina, which transmits signals to the brain, where information is processed. During this process, color is the first visual element perceived by the brain, before other visual elements [2]. With the development of the economy and improvements in living standards, people's aesthetic consciousness has continuously enhanced. In dynamic posters, the use of color has evolved toward a more scientific approach through interdisciplinary research and psychology. The symbolic meanings of colors are also maintained in the application of colors in dynamic posters. The use of cool and warm colors directly affects the viewer's immediate perception, and the intensity of colors influences the visual impact experienced by the viewer. Moreover, in dynamic posters, color combinations often change with the dynamic effects to enhance visual artistry.

Layout design is also a crucial component of dynamic poster design. The purpose of layout design is to convey information accurately, quickly, and clearly to the viewer. In dynamic posters, layout design becomes even more critical due to the influence of dynamic effects. Effective layout design helps balance the chaos introduced by dynamic effects while emphasizing important information.

2.2. Advantages of Dynamic Posters

Static and dynamic posters differ significantly in terms of presentation, interactivity, and effectiveness of information delivery. Static posters use fixed images and text to convey information, characterized by their simplicity and directness. They are easy to produce and print, making them suitable for scenarios that require clear, straightforward communication, such as advertisements and announcements. The primary advantage of static posters lies in their stability, allowing for effective display in physical spaces with minimal maintenance. However, static posters offer limited interactivity; viewers passively receive the information

without engaging with the design, which may be insufficient in contexts requiring user participation.

In contrast, dynamic posters utilize animations, videos, and GIFs to present content through changes in time and image movement. These dynamic elements not only capture viewers' attention but also sustain their interest, making dynamic posters particularly effective for conveying complex information or emotions. The interactivity of dynamic posters significantly enhances viewer engagement by allowing users to interact through clicks, touches, or swipes. This interactive capability is especially beneficial on digital platforms and social media, where dynamic posters can respond in real-time to user feedback and adjust content accordingly, thereby improving information reception.

Compared to traditional static posters displayed in bus stations, elevators, and notice boards, dynamic posters offer superior visual effects. This superiority is evident in three key areas: narrative strength, increased engagement, and comprehensiveness.

In terms of narrative strength, traditional static posters are limited to single, unchanging visuals, which often lack emotional stimulation and require viewers to actively seek out and interpret the story and message conveyed. Dynamic posters, on the other hand, integrate time elements and time axis processing, making narratives more coherent and intuitive. The use of animations and videos allows for segmented presentation of information, enhancing narrative completeness and fluidity. This temporal layering and spatial expansion enable viewers to quickly and comprehensively understand the content, improving narrative depth and visual experience [1].

Regarding engagement, dynamic posters excel by combining dynamic elements and interactivity, effectively attracting and entertaining viewers. Unlike static posters, dynamic posters use animations, videos, and GIFs to make content more vivid and interesting. This dynamic approach captures attention more effectively, as moving objects and changing scenes naturally draw the eye and stimulate curiosity. Additionally, interactive features such as touchscreens or click responses further enhance user engagement, transforming passive viewing into an immersive experience that increases viewer involvement.

Furthermore, the creative flexibility of dynamic posters significantly boosts their appeal. Designers can leverage various animation effects, visual transitions, and multimedia elements to create more innovative and visually impactful displays. This flexibility allows for the expression of diverse artistic styles and concepts, catering to different audience preferences and interests. Dynamic posters also enrich emotional expression by incorporating visual effects, sound, and music, offering a multidimensional experience that static posters cannot provide. This multifaceted approach enhances the emotional impact and resonance of the poster, creating a more engaging and memorable viewer experience.

Lastly, dynamic posters demonstrate notable advantages in comprehensiveness. By transcending the limitations of two-dimensional space and introducing time elements, dynamic posters break free from traditional static constraints. They integrate interdisciplinary technologies and artistic techniques, such as animation, interactive design, and data visualization, resulting in a comprehensive design product. This approach not only makes information transmission more efficient and accurate but also allows viewers to experience information in a multi-layered, multidimensional format,

enhancing both presentation effectiveness and understanding depth.

3. Design Features of Dynamic Posters

3.1. Overall Picture

The overall visual coordination of dynamic posters is a crucial aspect of their design, encompassing four main elements: color, typography, graphics and images, and layout. Achieving this coordination not only enhances the aesthetic appeal of the poster but also ensures effective communication, allowing the audience to quickly and accurately grasp the content and theme.

Color coordination forms the foundation of visual harmony in dynamic posters. Color sets the emotional tone and visual emphasis of the poster. Colors should align with the theme and emotional expression of the poster. For example, blue is often used to convey tranquility and professionalism, while warm colors like orange are suitable for conveying vitality and enthusiasm. It is essential to ensure that color combinations are harmonious and avoid conflicts or overly complex schemes that could lead to visual confusion. Gradients and contrasts can be used to highlight key information or guide the viewer's attention, enhancing the overall visual appeal and depth of the poster.

Typography is equally critical for overall coordination. Typography encompasses the choice of fonts, as well as details such as font size, weight, and line spacing. Text should match the overall design style of the poster. For example, posters with traditional cultural themes might use calligraphic fonts, while modern designs may employ clean, sans-serif fonts. The color of the text and its contrast with the background should ensure readability. Effective typography and design help convey information more clearly and intuitively.

Graphics and images also play a significant role in visual harmony. Graphics and images should be closely related to the poster's theme and content, avoiding elements that might distract from the main message. The style, size, and placement of graphics should complement the typography and color scheme, creating a cohesive visual effect. The layout of graphics and images should follow principles of visual balance, avoiding feelings of overcrowding or asymmetry.

Layout design is a key component in achieving overall coordination. A well-organized layout makes the poster's content clear and readable while enhancing visual appeal. Layout considerations should include the hierarchy of information, arranging content to highlight key elements and ensure a natural flow from one element to another. Space usage is also crucial in layout design; appropriate white space can add breathing room and beauty to the design, while excessive crowding can reduce visual comfort.

Achieving overall visual coordination in dynamic posters requires a comprehensive consideration of color, typography, graphics and images, and layout from the outset of the design process. Through careful design and adjustment, visual harmony and unity can be achieved, enhancing both the poster's aesthetic quality and the effectiveness of its communication, allowing the audience to better understand and engage with the content.

3.2. Unity in Color

In dynamic poster design, the uniformity of color is crucial

for creating a harmonious and engaging visual experience. Color not only evokes emotional responses but also influences the audience's psychological state. For instance, cool tones like blue and green typically convey tranquility and calmness, while warm tones such as red and orange convey energy and enthusiasm. Therefore, selecting colors that align with the poster's intent and message is key in dynamic poster design, ensuring that the visual experience is consistent with the content and purpose of the poster, thereby enhancing the overall effect.

Achieving color uniformity requires choosing a coordinated color scheme to create visual harmony. An effective color scheme often employs analogous colors, complementary colors, or primary colors, which help provide a balanced and aesthetically pleasing appearance. For example, analogous colors, which are adjacent on the color wheel, create a harmonious effect, while complementary colors offer contrast and emphasis. For dynamic posters, maintaining a consistent color scheme helps avoid visual confusion and ambiguity.

To ensure that all elements of the dynamic poster blend seamlessly, the color choices for text, background, graphics, and animations should be consistent. This consistency helps create a unified visual experience, where each component supports the overall design rather than competing with it. For instance, the color of the text should contrast well with the background to ensure readability, while the colors in graphics and animations should harmonize with the overall color scheme.

Moreover, colors often carry specific symbolic meanings, which may vary based on cultural and contextual factors. For example, red can symbolize passion or danger, while green might represent growth or nature. Designers should be aware of these color associations and select colors that enhance the poster's intent. As the meanings of colors can evolve over time, staying informed about current color trends and cultural interpretations is essential for ensuring the design's relevance and effectiveness.

Effective use of color can also enhance the poster's visual hierarchy, guiding the audience's attention. For instance, using bright or high-contrast colors for important information or calls to action can draw attention and make these elements stand out. Simultaneously, background colors should support rather than overpower the main content, ensuring that the audience's focus remains on the core elements of the poster.

For dynamic posters that include animation or interactive elements, maintaining color uniformity across these components is also crucial. The transitions and effects of colors should align with the overall color scheme to avoid disrupting the visual experience. This consistency ensures that dynamic elements enhance rather than detract from the overall design of the poster.

Color uniformity in dynamic posters encompasses emotional impact, color harmony, consistency, and color symbolism. By carefully selecting and applying colors, designers can create visually harmonious and engaging posters that effectively convey information and resonate with the audience.

3.3. Visual Guidance

In the design of dynamic posters, visual guidance is a crucial feature that significantly distinguishes them from traditional static posters. Through dynamic effects, designers can effectively control the movement of the viewer's gaze,

thereby enhancing the poster's communication effectiveness and overall visual experience.

Dynamic posters create a sense of temporal continuity through animation and dynamic effects, which guide the viewer's gaze along a predetermined path. Unlike static posters, dynamic posters offer a "timeline" that allows the viewer's attention to naturally follow the animation as it unfolds. This dynamic effect enables the viewer's focus to shift from one element to another, facilitating a step-by-step presentation of information. For example, animations might first draw the viewer's attention to the poster's title, and then, as the dynamic elements progress, gradually lead the viewer to the main content and details. Dynamic posters can guide the viewer's attention by shifting perspectives. Designers can use motion and changing visual effects to direct the viewer's gaze from one section to another. This movement not only enhances the sense of visual dynamism but also helps the viewer interpret the poster's content according to the sequence intended by the designer. For instance, through gradient animations or sliding effects, key information can be emphasized, thereby directing the viewer's attention to the most critical elements.

Furthermore, visual guidance in dynamic posters can be achieved by altering the visual focus. Designers can adjust the focal points of the poster using dynamic effects, making certain elements more prominent at specific moments. This technique helps viewers quickly identify essential information and establish a clear visual pathway during the information reception process. For example, designers can use animation to make keywords or calls to action flash or increase in size at specific times, thereby enhancing their visual impact. Visual guidance in dynamic posters can also be realized through interactive design. In some interactive dynamic posters, users can control the movement of their gaze by clicking, touching, or swiping. This interactivity allows viewers to actively engage with the poster content, thereby improving the effectiveness of information delivery. For example, clicking on a specific area might reveal additional information, or touching a part of the screen might make it more prominent. This interactive approach enables viewers to adjust the focus of their attention according to their personal interests and needs.

4. Summary

With the development of the Internet era, more and more industries have applied innovative methods different from the traditional model, which is reflected in the emergence and development of dynamic posters. Dynamic posters lead the trend of poster design with digital, interactive and dynamic visual communication, which has become the mainstream development trend of poster design in the future. With the continuous development and evolution of emerging technology, the expression forms and art forms of dynamic posters are becoming more and more abundant, more interesting, and more able to attract the attention and emotional resonance of viewers. In the era of intelligent media, intelligent media technology can more accurately locate audiences and users, and information transmission is also more accurate, which greatly improves the communication power of dynamic posters. With the help of new media technology, designers can create new poster works that are different from the past, adding more possibilities in the history of poster development, and promoting the diversified development of graphic design.

References

- [1] Wang Weikai, He Zheng. Image narrative Comparison and Strategy Analysis of Dynamic and static posters [J]. Design, 202, 35(17):90-93.
- [2] Liu Xiao. Research on Dynamic poster design of Traditional Chinese festivals for New media [D]. Shaanxi University of Science and Technology,2019.
- [3] Qiao Wu. Analysis on Application and artistic expression of dynamic posters in New media era [J]. Art Education Research, 2023, No.292(09):116-118.
- [4] Shen Hangshuo. Research on the Potential narrative Function and communication power of dynamic Posters in the era of intelligent media [D]. Lu Xun Academy of Fine Arts,2022.