Transforming the Hair Color Design Industry by Using Paintings: From Art to E-Business

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Abstract-Following the global trends of aesthetic economy, the added design value and added digital value models employed in the creative industry have evolved rapidly. This enhances the connotations and value of the overall creative design industry. The traditional hair color design industry is also actively committed to the breakthroughs and creative performance. Therefore, based on a model that integrates paintings, added design value, and added industry value, this study developed an industrial model for hair color transformational designs based on paintings. To visually demonstrate the feasibility of using paintings in modern hair color designs, this study also established an art–to–e-business model using the development strategies for transforming art into creative design, methods of applying information regarding paintings (selecting target feature selection, analyzing painting connotation, assessing cultural needs, and establishing digital information), creative design transformation procedure (e.g., abstract conceptualization, concept visualization, visual concretization, and concrete 3-dimensionalization), and a case implementation of art-based creative transformational design. The model developed in this study can contribute to sustaining art and culture and achieving the artistic design and lifestyle art goals of the creative design industry.

Keywords- Painting; Transformation; Hair Color Design; Creative Industry

I. INTRODUCTION

Beauty is highly valued in today's world. When presented with beauty, people are aesthetically pleased and motivated to pursue aesthetic experiences. Featherstone asserted that the desire for commodities in contemporary society stimulates consumption behaviour [1]. In addition to satisfying functional needs, the added value and pleasure of using commodities are important to consumers. Based on the symbols developed by using painting elements, this study of transforming paintings into design creates designs that incorporate emotional symbols and aims to stimulate consumer beliefs, memories, and spiritual experiences of emotions, and satisfy their internal psychological demands at the cultural level. Good commodities are similar to the works of art in that they communicate with people through perceptual images and evoking their emotions. The American product design scholar Norman indicated that emotional elements are the factors that determine the success or failure of product designs, and the greatest power to touch the human soul results from transference, which has been emphasized by aestheticians [2]. The basis of transference primarily relies on genuine responses to life experiences. Therefore, creativity developed from the transference of paintings enables designs with artistic and cultural connotations, thereby achieving the goals of modern lifestyle and aesthetic economy.

In contemporary society, people value the cultivation of personal style and image. Thus, hair coloring has become a focus of the pursuits in the new era. Accordingly, improving the artistry and connotations of hair color design and developing a personal style have become significant issues related to hair color design. In "Painting as Pure Art," Kandinsky stated that artworks involve two aspects, that is, the internal and the external. Therefore, the focus and core values of product design should not only care about the external appearance, but also the internal spirit. Regarding paintings, aside from the direct expression of shapes and colors, the emotions evoked by the connotations are extremely significant. The visual presentation is used to convey spiritual symbolism and meaning. This study aims to transform paintings into hair color designs by infusing artistic connotations into the designs to concurrently satisfy people's material and spiritual needs. Lin and Lin defined culture as a lifestyle, design as a preference, creativity as identification through emotional impressions, and industry as the medium, approach, or method of actualizing cultural design creativity [3]. Therefore, hair color design can be considered as a form of creative art inspired by the colors and concepts of paintings. Apart from providing additional sources of inspiration and incorporating the artistic connotations of artworks, hair color designs transformed from paintings satisfy people's spiritual needs, demonstrate artistic aestheticism, and generate experiences of beauty. Adopting high-quality artworks, which are typically masterpieces that have endured throughout history, can enhance the literary connotations of hair color designs, infusing the designs with poetic and artistic content as well as aesthetic experiential value.

II. DEVELOPMENT TRENDS OF AN AESTHETIC ECONOMY

In this section, we explore Taiwan's economic development pattern, as well as the extent to which the development trends of aesthetic economy reflect this pattern. A model that integrates paintings, added design value, and added industry value is also proposed to satisfy industry demands and enhance competitiveness.

A. From OEM to OBM in Taiwan

Taiwan's industrial design is developing along with its economic development. The design development could be represented as a smile face, proposed by the former ACER president Shi, from OEM (Original Equipment Manufacture), ODM (Original Design Manufacture), to OBM (Original Brand Manufacture) as shown in Fig. 1 [3]. Before 1980, OEM vendors in Taiwan reduced costs to produce "cheap, high quality" products as a strategy to become successful in the global manufacturing industry. With the OEM style of having "cost" but without a concept of " price" in mind, or just by knowing "cost down" but not knowing " value up", these vendors created Taiwan's economic miracle by earning a low profit from manufacturing. Those dependent upon hard-working patterns from the OEM pattern became obstacles in developing their own design. These vendors were extremely busy producing products to meet manufacturing deadlines; there was no time to develop design capabilities, so that the environment could not nurture design talents. After 1980, Taiwan enterprises began to develop ODM patterns to extend their advantages in OEM manufacturing. Recently, product design in Taiwan has stepped into the OBM era. In addition, cultural and creative industries have already been incorporated into the "National Development Grand Plan", demonstrating the government's eagerness to transform Taiwan's economic development by "Branding Taiwan" using "Taiwan Design" based on Taiwanese culture [4, 5].
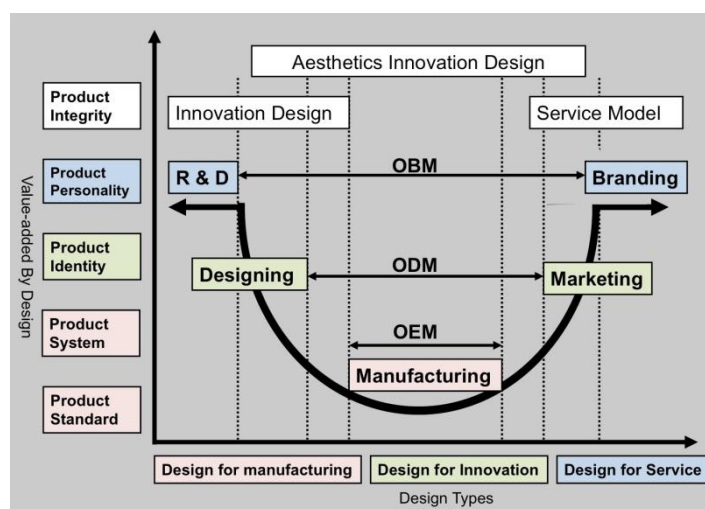

Fig. 1 From OEM to OBM in e Business

B. An Integrated Model of Paintings, Added Design Value, and Added Industry Value

Concerning the cultural and creative industry and aesthetics development trends, this study developed a model based on Lin and Lin's model to integrate paintings, added design value, and added industry value [6]. The proposed model entails the integration of digitalized creative art, creative human-centered technology and emotional designs, and marketing, to form a new industry consisting of aesthetic economy and experiential design. Fig. 2 shows that the cultural content of cultural and creative products is enriched through various stages comprising added art value, added creativity value, research and development, and commercialization. Subsequently, operational feasibility is realized by collaborating with related industries to establish market analyses, economic benefit assessments, and business models. This allows products with added creativity value to enhance and contribute to the digital industry. The creative art product design procedure can be divided into three stages, that is, extracting artistic styles and unique characteristics, forming design conceptual models, and completing artistic product designs. Lin applied the above concepts in the creative learning of digital archiving, and divided the added value of creative art into three stages [6]. He introduced a value-adding model for cultural and creative product design, as shown in Section B of Fig. 2. The process involves endowing meaning to the original painting information, allowing it to become useful design information with added information value. By analyzing and summarizing the design information and subsequently applying added creativity value, design information is transformed into creative knowledge. Finally, by incorporating added industry value, creative knowledge develops into valuable intellectual property.

Fig. 2 shows the implementation of the aforementioned process, which combines digital archiving of paintings with added creativity value, research and development, and commercialization. Next, by incorporating the concept of added archiving value, market analyses, economic benefit assessments, business models, and operational feasibility of an operating model, the responsible personnel are able to work separately and collaboratively to integrate skills, creativity, and business operations, achieving aesthetic economy. By connecting the framework in Fig. 2 to the artistic and creative industry development plan, this study investigated how to use the added creativity value of paintings to transform creative paintings into cultural and creative product designs. In other words, design industry management concepts are used to integrate cultural creativity, added value design, production, and marketing channels to add meaning to added art value. Next, added design value is made into artwork and combined with added creativity value that has been commercialized to transform artistic creativity into creative art products. Concerning the use of painting information, target features, content analysis, levels of needs, concept development,

and other information are all digitalized. The transformational process of design creativity entails four stages: abstract conceptualization, concept visualization, visual concretization, and concrete 3-dimensionalization. By employing the painting information and design creativity transformational process, practical transformational design cases are developed, whereby a model that integrates paintings, added design value, and added industry value is established. Detailed descriptions of the relevant procedures are presented in the following section.
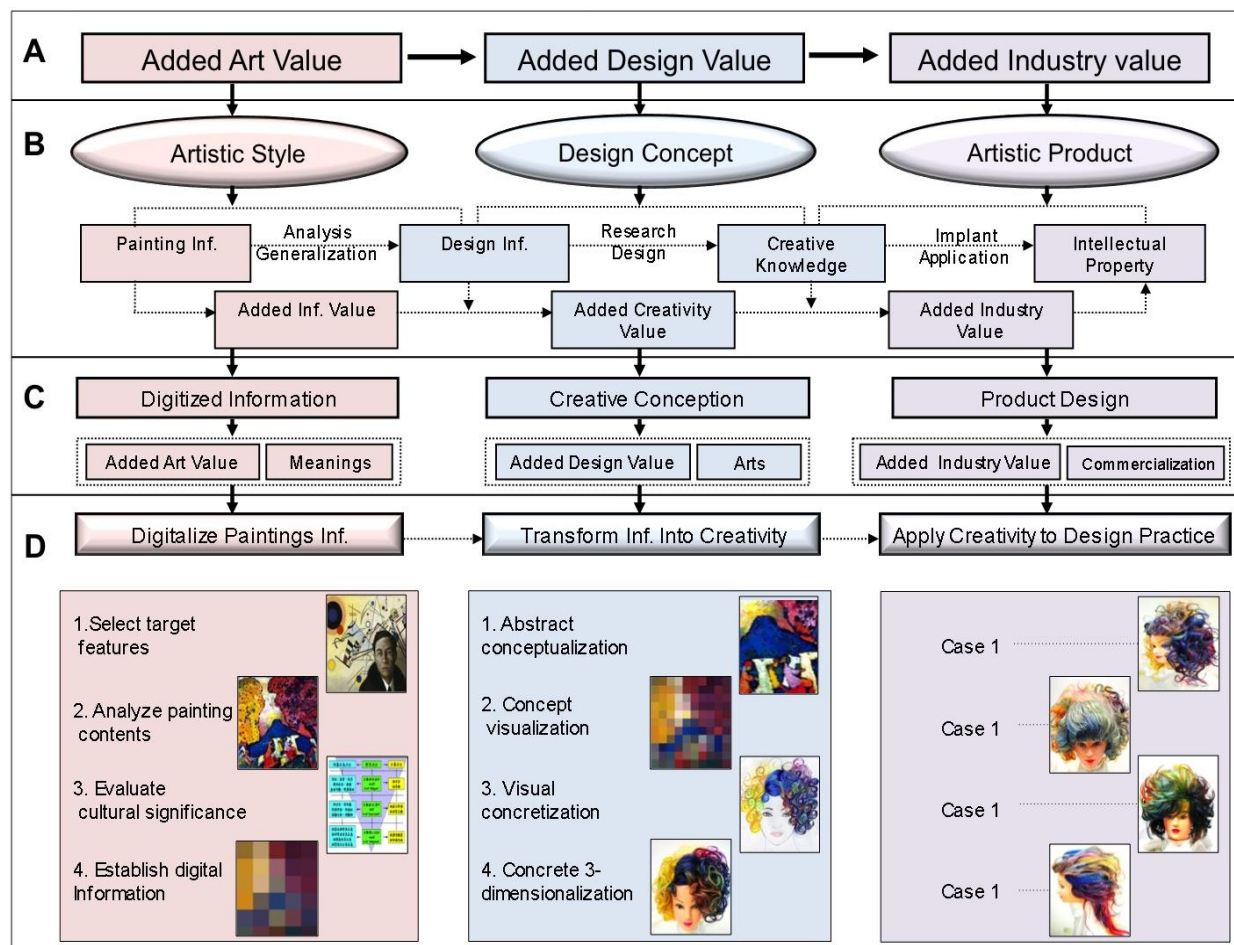

Fig. 2 Integrated model for the artistic and creative industry

III. DEVELOPMENT OF TRANSFORMATIONAL DESIGN BASED ON PAINTINGS

Development strategies for transforming creative art into design include referencing the transformational process of design based on Chinese aesthetic concepts and identifying a theoretical foundation and application methods. A literature review was conducted to analyze the style of famous paintings and hairstyle transformational design cases, thereby creating files containing painting analysis information.

Painting themes with target features were selected for summary and analysis of the painting content. Cultural needs regarding hair color transformational designs based on paintings were assessed to clarify the design direction and satisfy the demands of designers and consumers. Digital information files were established for subsequent practical applications. The procedure for using paintings to transform creative designs is as follows: abstract conceptualization, concept visualization, visual concretization, and concrete 3-dimensionalization. This procedure was performed to transform the painting titled Blue Mountain produced by Kandinsky.

A. The Base for transforming creative art into design

Tsai stated that the creation of artistic works is a type of transmutation, in which thoughts, ideas, and observations are transmuted into feelings, emotions or perceptions, and mental states [7]. The process of transforming material into artistic work necessitates the use of designers' mind and spirit; the subtleties of such use remain part of the mystery of the creative process. Therefore, the process of transforming field experiences into actual design output and applications should follow aesthetic principles, guidelines for transmuting qualities and attributes, and other relevant theoretical foundations for the following two reasons: (a) to complete the design implementation, and (b) to establish a model with a solid theoretical basis that can transform cultural field experience into designs and applications. Jokabson suggested that there are six elements in

communication: addresser, context, message, contact, code and addressee [8]. This study with reference from Tung [9], rephrased the process as follows: a painter (poet) is a unique addresser in this world (a specific field), who is inspired to produce a concept (a unique message), using audio/visual contact (painting, text pages, audio-visual equipment), by introducing special codes (poetic language), and sends the message to specific addressees (receivers who can appreciate the poem/painting). These illustrations could further demonstrate the process for painting.

In addition to the first stage of presenting the aesthetic concepts of Chinese paintings as a reference for designers, the second stage, shown in Fig. 3, involves a corresponding process to transform paintings into designs. Specifically, designers engage in painting observations before channelling their perceptual impressions into basic creative ideas (states of mind). This internal image is then transmuted into an artistic and creative concept; thus, the observational experience is transformed into a process of affective design (context). The third stage, which comprises an experiential process of cultural and creative transformational design, concerns how consumers employ visual communication effects generated by observing a designed product and experience the aesthetic state by immersing in the poetic cultural experience. This experience inspires deep reflection and resonance between the mind and object when consumers are deeply moved. Consequently, such artistic and creative designs can be employed in our daily life to achieve transformational design based on paintings.
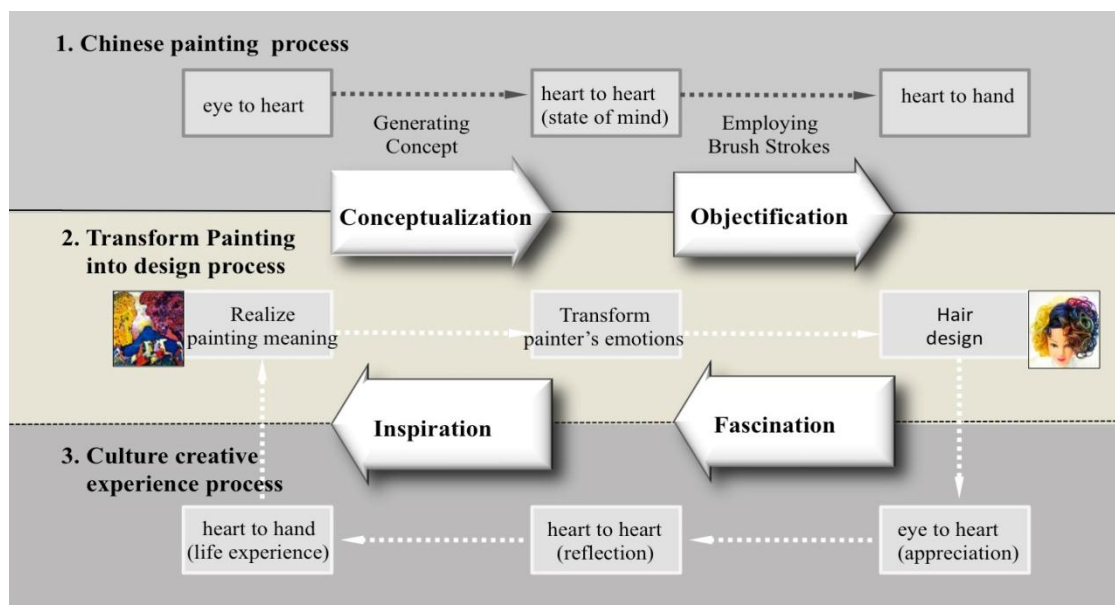

Fig. 3 Process of transformational design through paintings

B. Application of Painting Information

In addition to understanding the basis of transformation, the development of transforming paintings into designs involves applying information regarding paintings, such as selecting target features, analyzing painting connotations, assessing cultural needs, and establishing digital information, as explained below, shown in Fig. 4.

1. Select target features: Select websites that feature fine art and artist overviews to understand various painting styles. Search for cases relevant to hairstyle transformational designs based on paintings to explore the current situation, future improvements, and the development of hairstyle transformational designs based on paintings.

2. Analyze painting connotations: Analyze the information from websites that provide artist biographies, theories of painting, and artwork content. Compile a basic content analysis summary of artworks. Then, identify paintings that are suitable for transformation.

3. Assess cultural needs: Hair coloring has become a part of life, and in this study, it is regarded as a representation of creative art and culturally creative design activity. Therefore, based on the three properties of product design transformation through cultural creativity [10], hair color design includes the (1) outer/visceral level: color, texture, form, surface ornamentation, line, detail presentation, and composition; (2) mid/behavioral level: functions, usability, convenience, safety, and association; and (3) inner/psychological level: the special meaning, stories, emotions, and cultural characteristics of products. By analyzing and applying the three levels of needs, the design direction can be determined and oriented to satisfy consumer demand.

4. Establish digital information: Produce a digital data table using the data obtained in the preceding steps, simplify the hues of the color elements emphasized in hair color transformational designs based on paintings (using computer software), and create appropriate area ratios for future practical applications.
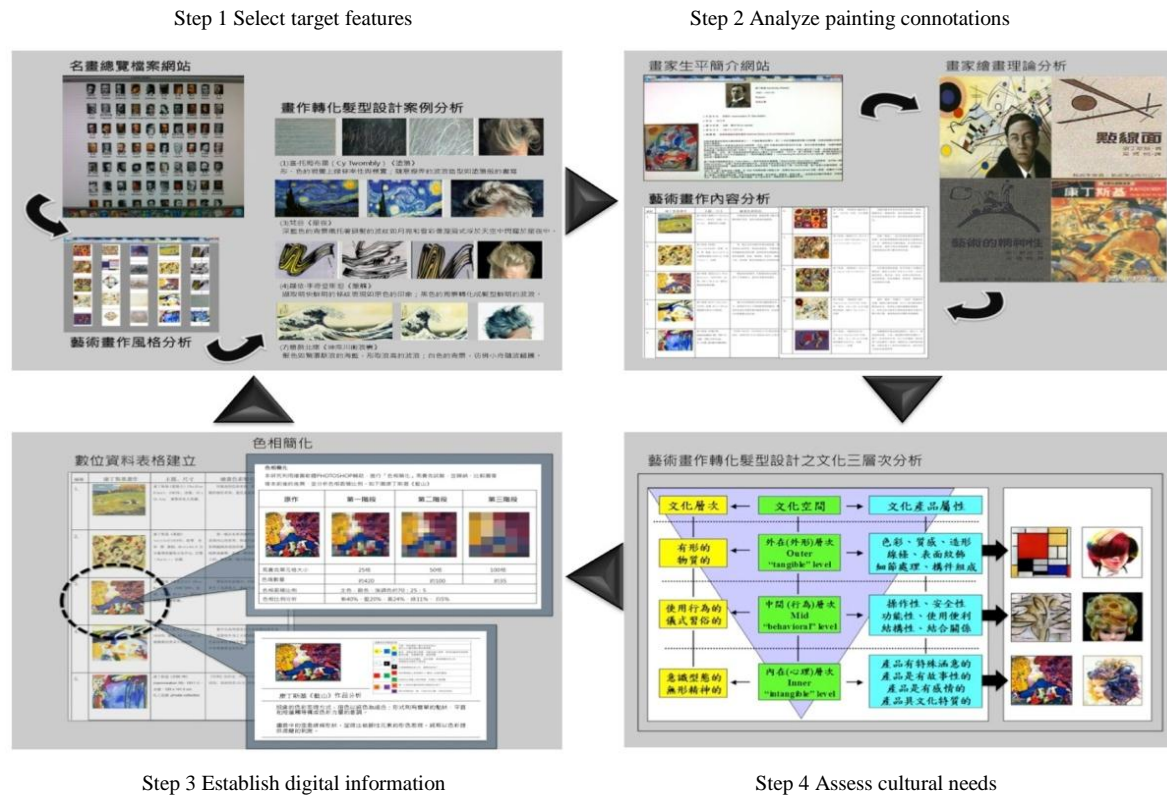
Step 1 Select target features   Step 2 Analyze painting connotations

Step 3 Establish digital information   Step 4 Assess cultural needs

Fig. 4 The process of establishing and applying information for transforming paintings

C. Procedures for Transforming Concepts into Designs

To transform the concepts of the paintings into a practical design, we referenced related studies and developed practical implementation procedures according to the paintings characteristics. You et al. examined the transformation of a product image into a representational design, and proposed a three-stage representational image design process that comprises association, transformation, and implementation [11]. Association refers to establishing a direct connection with personal experiences, concepts, memories, feelings, and perceptions to further describe and portray concepts that are considered ideal and significant (image characteristics). Furthermore, keywords related to the image are used as a basis for transforming 2D symbols.

Transformation describes a key step in the transformational design process, in which image associations are visualized and transformed into primary vocabularies (transforming the abstract into the physical), and symbols are transformed into 3D designs (models). Implementation refers to the final phase of the project and the completion of the association transformation process. During this phase, in addition to creating a select and finalized product through transformation and modification, initial procedures for further examining and modifying the visual rationality, detail and proportion processing, and color configurations of the final product are completed. This study was based on the preceding reference and the model proposed by Yeh et al. [12]. Subsequently, we identified the following four phases in the transformational design process based on the characteristics of the Ma-Zu cultural field experience.

The first phase is the conceptualization of abstract ideas, which involves the perceptive imagination and creative imagination processes proposed by Teng [13]. Perceptive imagination refers to the contact with an object of perception under the influence of an individual emotional model and framework, which triggers a natural emergence of images based on specific memories; these memories are then processed by the mind and spirit. Consequently, in the process of creative imagination, a new image with characteristics similar to those of the perceived object is created. The atmosphere and ambience of the created image are also linked to the original object. We extracted and analyzed the relevant perception-based elements in the field experience process to provide a basis for transformational designs and stimulate perceptive imagination regarding the field experience.

The second phase is the visualization and 2D portrayal of concepts. In *Experiences in Visual Thinking*, discussing the visualization of concepts and the development of concrete objects based on visualization, McKim indicated that visual images can be divided into three types: (a) the perceived or observed image physically experienced by the senses; that is, experiences seen by the eye and recorded in the mind; (b) the mental and spiritual or imagined image is an image assembled using internal creativity based on the recorded information of a perceived image; and (c) the figure-like or drawn image refers to images recorded through sketching, drawing, or description for communication [14]. These three visual image-creation processes are

required in the design and contemplation processes, with which new images are created through constant feedback. Therefore, viewing, imagining, and drawing are three essential elements of visual thinking. These elements do not automatically generate ideas from received, displayed, or recorded images; instead, a gestation and contemplation period is necessary to create a new image. This is a required phase in the transformational process. Thus, this process can be adopted to transform the conceptual elements observed in field experience into 2D visual elements with the use of contemplation and imagination.

The third phase is the 3D portrayal of 2D visual objects. This phase involves using the strategies for creating new images proposed by Stoops and Samuelson to extract 2D visual elements from field experience and transform them into 3D objects based on the image details, or by using techniques such as changing, alternating, or simplifying the form characteristics [15]. The fourth phase is the application of 3D objects to daily life. During the 3D portrayal process, the functionality and usability of objects is considered to ensure that these objects can be used in daily life. Through design, all objects used, observed, and experienced in life can offer increased convenience and pleasure, thereby enhancing people's overall life quality. In addition, cultural traditions conveyed through design are adopted and continued in daily life, reflecting the realization of design applications in the physical world.

IV. PRACTICAL APPLICATION OF CREATIVE TRANSFORMATIONAL DESIGN USING ART

To practically apply creative transformational designs using art, *Blue Mountain* by Kandinsky was selected for transformation into a hair color design according to the operational procedures. Subsequently, this study established an art–to–e-business model, the content of which is explained below.

A. A Practical Case of Transformational Design

The practical transformational design case discussed in this section was based on the creative art ideology of the expressionist painter Wassily Kandinsky (1866-1944), which was referenced by Hsu [4]. Kandinsky asserted that nature should not be portrayed using external phenomena, but with internal emotions. This approach aims to achieve the goal of expressing thoughts and feelings invisible to the human eye, attracting audiences by stimulating their internal emotions. Expressionist paintings convey a sense of dissociation from the concept of physical imagery and the pursuit of eternal existential value. Expressionism is characterized as an instinctive painting style, where deep emotions are embedded into paintings. Additionally, Kandinsky asserted that the internal elements are feelings arising from deep within the artist's soul that evoke similar emotions within audiences. Thus, internal elements comprise the main content of expressionist paintings. In her book *Feeling and Form: A Theory of Art* [16], the American philosopher Susanne K. Langer discussed symbolic aesthetics, specifically, art as a symbolic creation of human feelings (i.e., art is a reflection of inherent human emotions). The emotions portrayed in art are an abstract form of the actual emotions. In other words, indescribable emotions are transformed into tangible art by incorporating symbols (translated by Liu et al. [16]). In their presentation and daily application, paintings generally possess numerous cultural meanings such as contemporary ideologies. Thus, according to Kandinsky's ideas regarding form and symbols, this study explores different approaches to express physical characteristics, operational usability, and artistic presentation in abstract paintings and relevant theories. These approaches can be categorized as form, color, and the artistic transformation of intangible emotions.

By observing and comparing computer image samples, Huang conducted experiments regarding form dissociation and hue simplification using drawing software [5]. The image samples obtained before and after the experiments were compared to examine the role of color in paintings and determine the feasibility of using paintings for composition design. The hair color design presentation primarily considers people's needs for color perception and hue variation. The design was then combined with interactive application of representation shaping to enhance the presentation of color and fully portray the design. The process of hair color transformational design based on the painting titled *Blue Mountain* can be divided into four stages, as explained below, shown in Fig. 5.

Stage 1. Abstract conceptualization: *Blue Mountain* was selected because of the diverse color layers and aesthetic tension provided by the use of pointillism techniques. Regarding content, this painting depicts a trip to a blue mountain, as portrayed by Kandinsky. The components of this painting include a blue mountain ridge and equestrians riding white horses.

The blue sky is dream-like and represents an ideal world. In this painting, the color blue was used to symbolize bravery. Pigments are structured within the outlines of several large, flat-colored mountains and trees, rendering rich color layers. The equestrians are clearly outlined, depicting a positive and rhythmic image.

Stage 2. Concept visualization: By analyzing the forms and symbols within the painting, the hues were simplified and cultural symbols deconstructed. Computer software was used to conduct a mosaic experiment for hue simplification. Consequently, approximately 100 color blocks were distinguished to calculate the color usage ratio in hair color designs. The hue analysis results indicated that the colors in the painting were 40% purple, 20% blue, 24% yellow, 11% green, and 9% white.

Stage 3. Visual concretization: The color content of the painting was converted into specific hair color design elements. For example, the analysis and calculation results of hue area ratio were used to determine the color ratio in the hair color design.

Large areas of the painting that feature yellow, blue, and purple formed into strong contrasting colors, which enhanced the use of each color. Varying shades of magenta and blue as well as circles of various shapes and sizes produced a circular form, and the mountain outline was extracted as the framework; these are all techniques of spatial creativity analysis. The use of lively, dynamic, and strong colors in the design generated a sense of movement, portraying a dream-like ideal world and internal emotions.
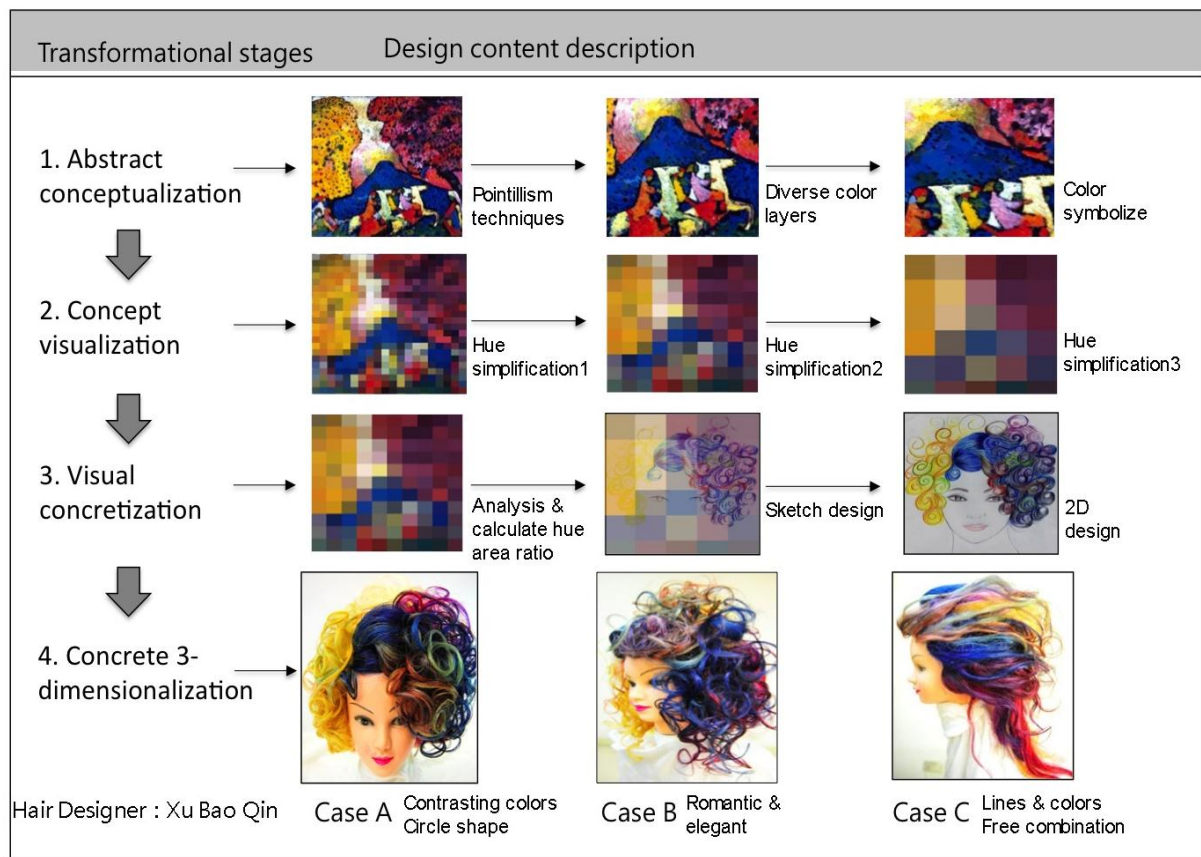

Fig. 5 Hair color transformational design based on Blue Mountain by Kandinsky

Stage 4. Concrete 3-dimensionalization: Based on the external form of color shaping in *Blue Mountain* and considering the functionality and usability elements, this study constructed an art–to–e-business model, presenting concrete results of hair color transformational design based on paintings. Aside from its application in everyday life, this model enables artistic hair color design and provides consumers with spiritual enjoyment by allowing them to understand the internal form of paintings through experiencing the external form.

B. Art–to–e-Business Model

In addition to promoting the preservation, exhibition, teaching, research, publication, and other uses of artworks, digital applications of paintings, if undertaken to provide added value, can promote cross-industry cooperation between the digital industry and the artistic and cultural creativity industry. The resulting intangible digital assets, if integrated with appropriate industries, can be transformed into virtual or physical product design applications and generate unlimited business opportunities through the added value and creativity. After digitalizing relevant paintings and referencing the structural content of related websites and digital application modes (Fig. 6), this study established a systematic and thematic website database to provide painting resource materials with added design value and painting-based hair color transformational design models with added value for the creative industry. In addition to constructing innovative websites for industry use regarding hair color transformational design based on paintings, this study also provides businesses a reference for brand creation by using an e-commerce network platform and by establishing virtual stores. Furthermore, consumer selection of required commodities was enhanced. The art–to–e-business model can also be used to plan and demonstrate models and results of cooperation between industries. As an information communication platform for relevant manufacturers, the art–to–e-business model integrates resource access and expands industrial marketing channels through alliance-related mechanisms.

This study applied elements of art to develop sources of designer creativity, and to transform paintings into hair color designs. In addition, relevant procedures of e-business operation were established to construct the ABCDE model shown in Fig.

7. This model can serve as a management reference for the artistic and creative design industry and effectively enhance industry competitiveness.
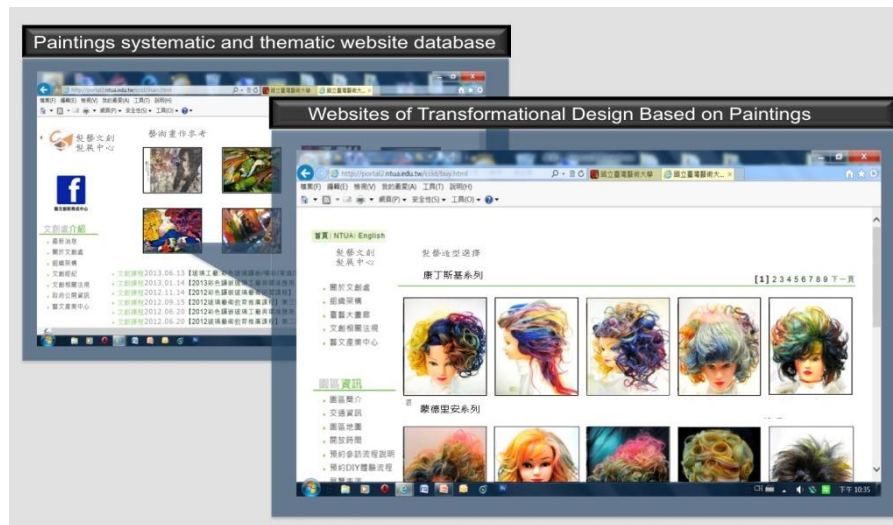

Fig. 6 Webpage showing examples of hair color transformational design based on paintings
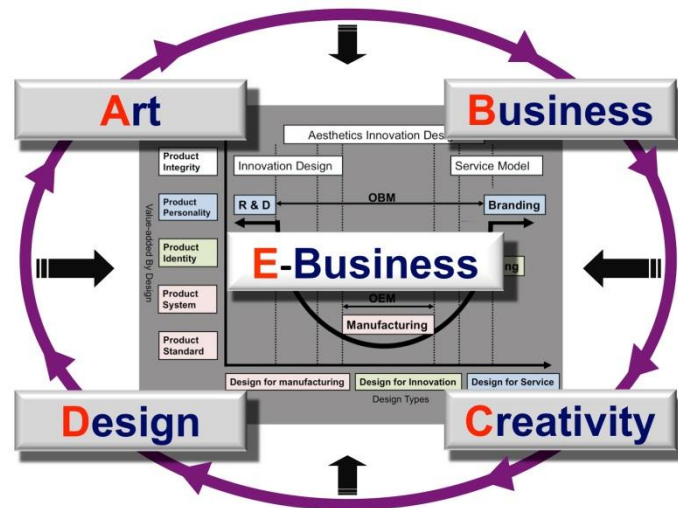

Fig. 7 The ABCDE model for the artistic and creative design industry

V. CONCLUSION

The mode of Taiwan's economy has evolved from OEM (a labor-intensive stage emphasizing design standardization and modularization), to ODM (a technology-intensive stage stressing product differentiation), and then to OBM (a knowledge-intensive stage oriented toward product stylization and visualization). The current economic trend involves the active promotion of design energy and value to gradually develop into an aesthetic economy. In response to this trend, this study adopted the added design value and added digital value models of the art and creativity industry to enhance the connotations and value of the cultural and creative design industry. Traditional hair color design in Taiwan also seeks for creative development and performance in an effort to overcome industrial bottlenecks related to low costs and low profits. Thus, based on a model that integrates paintings, added design value, and added industry value, this study established an art–to–e-business model to accelerate industry development.

Strategies for developing artistic and creative transformational designs include referencing the transformational process of designs based on Chinese aesthetic concepts and identifying a theoretical foundation and application methods. A literature review was conducted to analyze the style of famous paintings and hairstyle transformational design cases, thereby creating files containing painting analysis information. Painting themes with target features were selected for summary and analysis of the painting content. Cultural needs regarding hair color transformational designs based on paintings were assessed to determine the design direction and satisfy the demands of designers and consumers. Digital information files were established for subsequent practical applications. The procedure for using paintings to transform creative designs is as follows: abstract conceptualization, concept visualization, visual concretization, and concrete 3-dimensionalization. This procedure was performed to transform the painting titled *Blue Mountain* by Kandinsky. To visually illustrate the feasibility of using paintings

in modern hair color designs, this study developed an art–to–e-business model. This model can contribute to sustaining art and culture and achieving the artistic design and lifestyle art goals of the creative design industry.

REFERENCES

[1] M. Featherstone, *Consumer Culture and Postmodernism*, Newbury Park, CA: Sage, 1991.

[2] D. A. Norman, *Emotional design*, New York: Basic Books, 2002.

[3] R. Lin and C. L. Lin, "From digital archives to e-business-a case study on turning 'art' into 'business'," paper presented at *2010 International Conference on e-Business (ICE-B)*, Athens, Greece.

[4] B. Q. Xu, "Applying art of painting colors to hair coloring design," Unpublished master thesis, Mingdao University, ChangHua, Taiwan, 2013.

[5] C. L. Huang, "Investigation of neo-plasticism for construction application- case study of piet Mondrian," *Thesis of Plastic Arts Division*, pp. 413-432, Jun. 2003.

[6] R. Lin and P. H. Lin, "A study of integrating culture and aesthetics to promote cultural and creative industries," *J National Taiwan College of Arts*, vol. 5, iss. 2, pp. 81-106, 2009 [in Chinese, semantic translation].

[7] L. W. Tsai, "Teaching creative conversion of classical poetry," *Humanity and Social Science Research Papers*, vol. 45, iss. 1, pp. 59-82, 2010.

[8] R. Jakobson, *Language in Literature*, Cambridge, MA: The Belknap Press of Harvard University Press, 1987.

[9] A. Tung, "The four language spaces in poetry," *Contemporary Literary*, vol. 1, pp. 21-31, 1993.

[10] R. T. Lin, "Transforming Taiwan aboriginal cultural features into modern product design: A case study of cross-cultural product design model," *International Journal of Design*, vol. 1, iss. 2, pp. 45-53, 2007.

[11] W. L. You, Y. C. Gao, and B. Y. Yeh, "Product image and representational design: using the radio as an example," *J Design*, vol. 2, iss. 1, pp. 31-45, 1997.

[12] M. L. Yeh, P. S. Lin, and C. S. Hsu, "Applying poetic techniques of shape- spirit transformation in cultural creative design," *Journal of Design*, vol. 16, iss. 4, pp. 91-106, 2011.

[13] S. Y. Teng, *The Psychology of Aesthetics*, Sichuan: Ren Min, 1997.

[14] R. H. McKim, *Experiences in Visual Thinking*, Monterey, CA: Brooks Cole, 1980.

[15] J. Stoops and J. Samuelson, Visual imagination: The creation of a new image. In Design Dialoque (pp. 23-32). Massachusetts: Davis Publication, 1983.

[16] S. K. Langer, *Feeling and Form: A Theory of Art* (D. J. Liu et al. Trans.). Taipei: SDP Design, 1991 (Original work published 1953).