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# Research on the Design Model of Art Derivatives

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## **Abstract**

This study explores how to transform artists' works into art derivatives. The role of culture in product design is crucial, adding value to the product and helping to bring the region's unique culture to the international market. As the carrier of culture and art, art derivative is closer to people's lives than traditional artworks. The relationship between artistic derivatives and cultural creative products is crucial to contemporary art ecology. Through an in-depth discussion of the relationship between artworks and their results, this study proposes the transformation process of art derivatives. At the cultural level, material form is the most direct and concrete part of art. At the design level, form, function, and meaning are indispensable elements to ensure that derivatives are beautiful and functional. At the experiential level, sensory, action, and emotional experiences provide people with a comprehensive and deep understanding when interacting with derivatives. This study has important implications for the art derivatives market, especially for artists and market planners. Future research could explore other factors that influence the evaluation of art derivatives to provide a more comprehensive guide to the market.

# **Keywords**

Art Derivatives, Transformation Process, Design Model

#### 1. Introduction

Culture is an essential factor that must be addressed in the design process, and it plays a vital role in the added value of products. Designers can use specific cultural characteristics to enhance the value of products, which helps promote social and economic development and push the region's unique culture to the international market. Past studies have shown that innovative products with cul-

tural value can shape consumers' cultural concepts and make products become cultural communicators, which is also conducive to connecting traditional culture with modern life (Gu et al., 2022; Yuan et al., 2020; Qin & Ng, 2020; Qin et al., 2019). Artistic and creative products give consumers a deeper understanding of conventional culture and regional characteristics. At the same time, such products also show the practicality and uniqueness of modern life and can effectively carry and transmit culture (Wang & Fan, 2023; Sun, 2022).

Cultural factors play an essential role in product design. The global consumer audience highly appreciates the cultural meaning of a product, and incorporating the local culture into the product design can increase its value (Gumulya, 2022). Cultural values and green attributes influence customer preferences in green product design, highlighting the importance of considering cultural values in the design process (Ghazali et al., 2023). In designing artistic and creative products, it is crucial to consider both culture and users' individualized and diversified needs, aiming to provide new ideas and designs that reflect cultural connotations (Zhou et al., 2022).

With the development of the economy, people's attention has shifted from material needs to the pursuit of spiritual culture (Huang, 2004). As a new category of cultural and creative industries, art derivatives are carriers of culture and art and practical extensions of artworks. Although works of art are often expensive and difficult to accept by the public, art derivatives can skillfully integrate the artist's personality and thoughts into daily life with their practicality, energy, and reasonable price. Compared with works of art, they are more closely connected with people's lives. While retaining the artistry of the original art, they have gradually become common consumer goods in daily life.

The interweaving relationship between cultural creative products and artistic derivatives is essential to contemporary art ecology. Cultural and creative products mainly include traditional art forms, cultural heritages, and innovative performances that show unique cultural or regional characteristics. Art derivative is an extension of the original works, which can be transformed into new products or experiences that can reach more audiences. With the rich cultural foundation of original works, art derivatives can enhance the popularity and appreciation of authentic culture and creative products and promote the exchange of ideas, values, and traditions. In addition, art derivatives contribute to the sustainable development of the cultural industry by opening up new sources of income and stimulating innovation while protecting and praising the essence of the original. Fundamentally speaking, the symbiotic relationship between cultural creative products and art derivatives is the driving force to promote the growth and development of the global art market, strengthen cultural exchanges, and enhance the value and influence of overall creative expression. Although many studies have developed a set of design patterns for artistic and creative products, it has played a guiding role in product design and innovative development. However, there needs to be more research on the transformation mode of art derivatives in this field, which may be due to the uniqueness of art derivatives, and its transformation process involves the complex interaction between the original artwork and the target product. Combined with the above research background and motivation, the specific purpose of this study is to explore the design process and transformation mode of transforming artworks into art derivatives.

#### 2. Literature Review

#### 2.1. Nature and Characteristics of Artworks

In his book Poetics, Aristotle of ancient Greece thought art imitates reality. He first affirmed the authenticity of the natural world and thus confirmed the authenticity of "imitation" of genuine art. He emphasized that art "imitated" not only the natural world's appearance or phenomenon but also the real world's essence and laws. Beauty is the perceptual manifestation of ideas. Hegel & Khodoss (1979) said in Aesthetics that the nature of art is attributed to "idea" or "absolute spirit." He believes that "idea" is content and "perceptual manifestation" is a form of expression. The two are unified, and art cannot be separated from content and format. In works of art, people can always learn from the limited. Kant (1987) said in Critique of Judgment that besides content and form, the artist is also significant as the subject of artistic creation. Art expresses the artist's self-awareness and the impulse of life instinct. Imagination and originality in artistic creation can make art reach the realm of beauty.

The essence of art is inseparable from the characteristics of art, which is the internal law of features and the external expression of personality (Peng, 2006). As a particular social ideology, art production, as a unique spiritual production, determines that art has the essential characteristics of image, subjectivity, and aesthetics. First, art is a concrete, vivid, and touching image reflecting social life and expressing artists' thoughts and feelings. Secondly, art should use pictures to reflect social life. Still, this reaction is not simply "imitation" or "reappearance." Still, it is integrated into the thoughts and feelings of the creative subject and even the appreciation subject, which shows great creativity and innovation. Thirdly, from the perspective of artistic production, works of art need to be products produced by human beings and have specific aesthetic value that is aesthetics.

Goethe once said that "art should speak to the world through a whole" (Eckermann, 1913). As a product of artistic production, from the composition of creative works, it is the unity of content and form, sensibility and rationality, and reproduction and expression. From the structure of creative works, artistic creations are a whole and can be divided into different levels. The first level is "artistic language", which is the formal structure of works composed of colors, lines, and strokes. The second layer is "artistic image", which is the internal structure of the work and the materialization of the artist's aesthetic image of the natural world. The third layer is "artistic implication." Any artistic creation has a certain universality and profound ideological content, a specific symbolic meaning, or a particular philosophy of life hidden in it. Although some works have

different emphases at each level, a complete work of art should have the above three levels (Peng, 2006).

#### 2.2. Art Derivatives

There is no end to artistic innovation; artists constantly push the boundary between expression and creativity, and the emergence of artistic derivatives endows existing works with new vitality and innovative elements while respecting originality and cultivating brand-new artistic expressions. Art derivatives have various forms, including reinterpreting, adapting, and even remixing the original works, which inject new perspectives and understanding into existing works and attract new audiences. Art derivatives reflect the cycle of creativity, and one art form leads to the birth of another art form, forming a continuous flow of innovation and inspiration. With economic progress, public attention has shifted from real needs to the enjoyment of spiritual culture. In this context, art derivatives have become a new part of cultural and creative industries, playing the role of communication of art and culture. Compared with expensive art, art derivatives are practical, creative products that can reflect the artist's personality and thoughts (Yanisky-Ravid & Velez-Hernandez, 2018). Compared with the original works of art, art derivatives have higher practicability and life relevance, moderate price, and retain the essence of art, making them daily consumer goods in public life.

The introduction of art derivatives not only meets the needs of the public for spiritual culture but also provides a platform for artists and their works to publicize, shortening the distance between art and the public. Art derivatives make art more valuable, closer to the public and achieve life and commercialization. Through this opportunity, art lovers and the general public can get in touch with artworks more conveniently. At the same time, it also drives new business opportunities in the art market. In designing art derivatives, artists' challenge is creating unique and unrepeatable products. Otherwise, they only create ordinary products, not creative art derivatives (Karpik, 2010). Another key is that artists must maintain a consistent style in their products so that consumers can recognize their characteristics (Cattani et al., 2017). Art derivatives fully show the blending and possibility of art and creativity and bring new vitality and perspective to original art. These derivatives provide new forms of expression and expand the audience of art so that more people can appreciate and feel the charm of art. At the same time, art derivatives have also brought art into daily life, making art no longer just a spiritual enjoyment but also a part of life. In this process, the artist's creativity, unique perspective, and consistent style become the key to these products' success and highlight the critical role of artists in the design of art derivatives.

Early art derivatives were mainly printed or paper products, such as notebooks, postcards, and mugs. However, with the changes in society and people's needs, the pursuit of beauty has gradually improved, and the classification standards and communication methods of art derivatives have become more and more diverse. Derivatives can be divided into three types according to their modes of transmission (Chen, 2009): similar derivatives, duplicated derivatives, and daily-use derivatives. Similar derivatives mean that derivatives are of the same type as original works of art. For example, sculpture ornaments derived from sculpture works are similar derivatives, and their forms and materials are highly consistent with the original works. Copying derivatives transforms original works of art into new products by copying them on the same or different media. For example, painting works of art can be digitally scanned to make many copies quickly.

In recent years, daily-use derivatives are a new type of derivatives that have emerged due to the closer combination of art and life. They are practical and permeated with artistic elements, bringing art into people's daily lives, such as clothing, food, household items, etc. These products have the practicality of goods and retain the unique value of art. Previous studies have shown that the cross-border cooperation and transformation thinking between art and design can create more opportunities for renewal. It has become one of the trends of cross-border cooperation between art and design to apply works of art to design art goods, and they can jointly create a brand-new industry through value exchange. Moreover, in addition to allowing the public to collect art products that are much cheaper than the original works of art after viewing them, it also further provides artists with another source of economic income to continue their creative life (Hsieh & Guan, 2011).

## 2.3. Derivatives Design Related Theory

In exploring the realm of art derivatives, it is essential to recognize their unique position at the intersection of art and design. Unlike traditional artworks characterized by their singular artistic value, art derivatives encapsulate creative essence and commercial viability, making them more accessible to a broader range of art enthusiasts.

Creating a comprehensive art derivative is not a mere replication of original artworks; it necessitates the inclusion of the unique artistic temperament of paintings and the functional attributes of cultural goods. This study delves into various facets of this synthesis: the process of artistic creation, product design, artistic communication, and the pivotal role of the viewer's cognition in appreciating art. These components collectively lay a foundational theoretical framework for the transformation mode in art derivatives, a concept central to this research.

A pivotal aspect of this transformation mode is the integration of inspiration in artistic creation, as elucidated by Wang Changling in 'Poetry.' He describes a threefold process: 'thinking by birth' (spontaneous inspiration), 'thinking by feeling' (inspiration from indirect experiences), and 'thinking by taking' (insights from deep exploration of objective realities). This progression from intuition to emotion highlights a shift from the metaphysical to a more profound metaphysical understanding. These stages underpin the 'three environments'

theory—physical environment, situation, and artistic conception—essential for molding art derivatives' aesthetic and conceptual aspects.

Further, Norman's (2013) conceptual model comprising a design model, user model, and system impression offers deep insights into audience perception of a work's aesthetic and emotional dimensions. His model underscores the importance of creating art that resonates with shared experiences, utilizing familiar symbols for the audience. Similarly, Norman (2004) elaborates on how the design process's three levels—instinctive, behavioral, and reflective—correlate to users' sensory, action, and emotional experiences. This alignment reveals the cognitive shifts in art communication, crucial to the transformation mode.

Building on Norman's model, Lin (2005) categorizes cultural elements into three distinct levels: external (instinctive), middle (behavioral), and internal (reflective). These levels encompass tangible elements, usability aspects, and cultural products' ideological and spiritual connotations. This tripartite framework is instrumental in guiding designers through creating art derivatives that mirror the original inspiration and delve deeper into cultural elements, integrating them into designs with subtlety and significance.

Lin (2007) further emphasizes that successful artistic works should satisfy technical, semantic, and effectual levels, encompassing the transmission of the artist's message, the audience's comprehension of the work's meaning, and the work's ability to elicit appropriate responses and influence behavior.

In art appreciation, the interaction of various aesthetic and psychological factors comes into play. This includes aesthetic perception, experience, and sublimation, aligning with Hegel & Khodoss's (1979) notion of artistic creation as expressing ideas through creative imagery, eliciting epiphanies and resonances in the appreciator, leading to aesthetic pleasure and spiritual satisfaction (Tong, 2014).

Finally, when designing art derivatives, it is imperative to consider the consumers' consumption experience, a multi-faceted process encompassing sensory, action, and emotional experiences. These experiences, as outlined by Pine & Gilmore (1998) and Schmitt (1999), range from direct sensory engagement to the emotional connections formed during consumption.

In summary, the transformation mode in art derivatives is a complex, multi-layered process that intertwines artistic inspiration, design principles, and consumer experiences. By thoroughly understanding and valuing these aspects, designers can create products that reflect the original art's essence and resonate deeply with consumers, thus fulfilling the dual objectives of artistic integrity and commercial appeal.

# 3. Art Derivative Design Process

## 3.1. Art Derivatives Conversion Mode

The diversity inherent in design modes is characterized by their capacity to address various challenges and objectives, leading to the formulation of tailored

design strategies for specific products. This study aims to delve into the nuances of cultural and creative commodity design, offering a comprehensive analysis of existing literature on design modes and procedures. The ultimate goal is to establish a transformative approach to art derivatives, a concept central to our research.

Understanding and appreciating art derivatives requires a shift in perspective. Rather than viewing them merely as by-products of original artworks, it is crucial to recognize their distinct value. Art derivatives are not only inspired by original paintings but also amalgamate contemporary innovative design elements with the diverse experiences of consumers. They epitomize the vitality and diversity inherent in global culture and economy, drawing on original artworks' essence and transforming them into unique forms and contents.

Art derivatives' global cultural and economic significance can be conceptualized as a structure comprising cultural space, design level, and consumption experience. Each of these elements can be further subdivided. Cultural area encompasses external, intermediate, and internal groups, reflecting different degrees of engagement with the art derivative. The design level comprises the physical environment, situation, and artistic conception, each playing a distinct role in shaping the final product. The consumption experience is segmented into sensory, action, and emotional experiences, outlining the multifaceted nature of consumer interaction with art derivatives.

The theoretical underpinnings of this approach draw upon several key concepts. Lin's (2005) three-level theory of culture, Wang Changling's exploration of the material environment, situation, and artistic conception in 'Poetry,' and Schmitt's (1999) theory of consumption experience collectively provide insights into the cognitive shifts occurring during the process of art communication. These theories illustrate how the external level aligns with the physical environment and sensory experience, the middle class with situation and action experience, and the inner group with artistic conception and emotional experience. This layered understanding of art derivatives—from perception and interaction to the deeper, emotional connection with their meaning—is crucial for developing the art derivative conversion mode proposed in this study, as depicted in Figure 1.

## 3.2. Research Sample and Design

This study selects the author's sculptures and lacquer paintings as "Dense chaos", "Ethereal", and "Who Am I". Three works are used as prototypes of artistic works transformed into artistic derivatives. These three works are chosen for derivative design because of "dense chaos", "ethereal", and "Who Am I", all of which aim to explore people's understanding of self, life, and the nature of the universe. It not only causes aesthetic reactions visually but also digs deep into the philosophical problems of life at the thinking level, guiding the viewer to think further and understand. The whole research sample is designed around the

art derivatives with the theme of tea seats, from the tea products used in tea seats, tea ware, and tea warehouses used for collecting tea.

#### 3.2.1. Art Derivatives A: Dense Chaos

Dense Chaos" is a lacquer art sculpture. As shown in **Figure 2**, chaos symbolizes the birth and origin of the universe, inspired by the concept of "chaos at the beginning" in China's ancient philosophy. It represents the beginning of everything, the hazy, unknown, and mysterious state. This work shows the universe's chaotic state at the beginning of its creation, arouses people's thinking about the origin of life, and challenges the limit of the most basic understanding of the world.

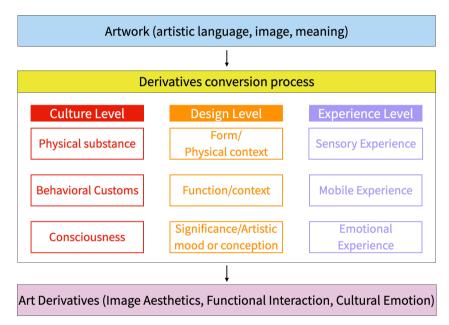
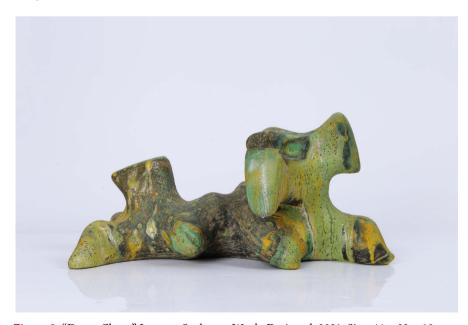


Figure 1. Art derivatives conversion idea.



**Figure 2.** "Dense Chaos" Lacquer Sculpture Work. Designed: 2021. Size:  $44 \times 22 \times 19$  cm.

I chose "Dense Chaos" to be transformed into an artistic derivative because it has a unique modeling language and strong visual appeal. Its modeling combines an exaggerated appearance with sharp edges and corners. This design not only brings shocking visual effects but also highlights the texture of the works using turquoise lacquer art. Art derivatives adopt this shape and color and extract the core elements from it. Combined with the lacquer lines, they use sculpture techniques to explore a brand-new texture effect.

From the perspective of derivative modeling, the profile of the work is specially selected for graphic conversion at an angle of about 15 degrees, which ensures that the "dense and chaotic" modeling can be fully displayed, and this strategy also creates the binary opposition and visual solid tension of the work. The design uses a single lacquer texture and changeable colors to give the audience a rich visual experience.

When converting this artwork into an artistic derivative, we first emphasized its visual effect and shocking power, combined it with Pu'er tea in China, a symbol of the initial chaos of the universe, and chose a modern and bold color. Furthermore, this solid visual effect is applied to the tea cake packaging of Pu'er tea, which makes the overall central idea and internal meaning form a harmonious connection, and the audience can feel the layer-by-layer transition from tea to tea set and then users from the tea mat series.

Finally, the derivative visually combines the bronzing technology of blue, gold, and yellow, further abstracting the internal lines to resonate with the original and become the epitome of "chaos." In the overall design process, the appearance form accounts for 70% of the consideration, while the function and meaning account for 15%. This is because, in this project, the innovation and highlights of external form are given more attention, while the function and meaning are relatively secondary. As a reference standard of design, the conversion process of derivative design is shown in Figure 3.

The derivative of "dense chaos" embodies the abstruse concept of "initial chaos" in ancient China's philosophy by artistic means. This work of art not only symbolizes the birth and origin of the universe but also represents the beginning of everything and profoundly describes the hazy, unknown, and mysterious state. Its core design concept aims to awaken people's reflection on the origin of life through this work and challenge our understanding of the boundary of the



Figure 3. Conversion process of dense chaos derivatives design.

fundamental concept of the world, as shown in Figure 4.

## 3.2.2. Art Derivatives B: Ethereal

The second work, "Ethereal", is a lacquer painting on paper with a large amount of white space in Chinese literati painting. To highlight the creation of the atmosphere of the I Ching in the picture, the work adopts block surface treatment and a progressive way to open the sense of space in the image so that the work has an ethereal feel, as shown in **Figure 5**.

"Ethereal" is chosen as the conversion object of intermediate-level art derivatives because its works show the charm of paper-based lacquer art, and the internal picture shows the landscape in the typical Chinese literati painting, which shows the artistic emotion beyond things. Considering that the tea-making culture in China is a ritual activity unique to the East, closely related to the mountains and rivers in China, the word "ethereal" is chosen. The rhythm and continuity of the mountains and rivers are extracted from it, and then it is cut and applied to the whole set of tea seats to form a unified visual theme. In this way, when the tea mat is used, it interacts and echoes with this artistic work and integrates the philosophy of landscape with the process of making tea to have a deep



Figure 4. Dense Chaos art derivatives.



Figure 5. "Ethereal" Lacquer Painting on Paper. Designed: 2019. Size: 145 × 50 cm.

dialogue with landscape painting.

In the end, the transformation result of the product is closely related to the "ethereal" and landscape theme. We can feel the philosophical dialogue with the mountains and rivers by making tea. In the design consideration of this art derivative, the form accounts for 15%. At the same time, the function is the key, accounting for 70%, and the meaning of the work also accounts for 15%, constituting the overall design benchmark. The design transformation process of the derivative is shown in **Figure 6**.

Since ancient times, art has always represented the aesthetic presentation of human emotions and thoughts. When "ethereal" is mentioned, people often think of the artistic realm that transcends the secular and is almost mysterious. The word "ethereal" is transformed from paper-based lacquer painting, trying to show an ethereal and detached artistic effect by treating blank spaces and blocks in Chinese literati paintings. Its design inspiration comes from the exploration of the book of changes atmosphere. Through the hierarchical arrangement of the picture, the sense of space in the photograph is strengthened, making the whole work more ethereal. The artistic derivative is shown in Figure 7.

#### 3.2.3. Art Derivatives C: "Who Am I"

"Who Am I" is a wooden carcass lacquer painting work, as shown in Figure 8. I explore the eternal question of "Who Am I". This work encourages viewers to reflect on themselves and explore the inner world hidden in everyday life. Through this work, people will explore their self-identity and the meaning of existence and realize that everyone is unique and has irreplaceable value and significance. The whole series of works is trying to guide the viewer to re-examine and understand life, self, and universe, aiming to stimulate people's inner thinking

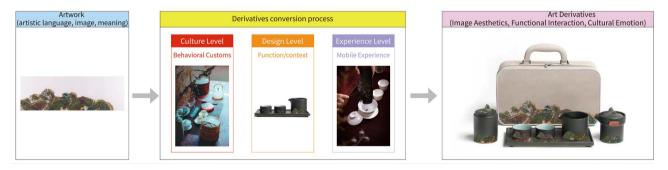


Figure 6. Conversion process of ethereal derivatives design.



Figure 7. Ethereal art derivatives.



Figure 8. "Who Am I". Lacquer Painting on Wood. Designed: 2012. Size: 244 × 61 cm.

ability so that art can not only stay on the surface of appreciation but also go deep into the essence of life and find the most authentic self. When exploring the meaning of human existence and inner self, art has become the mirror of our soul. The work "Who Am I" not only presents this kind of exploration but also focuses on self-awareness and the position of human beings in the universe. However, the natural attraction of art is undoubtedly that it can lead to deeper thinking and expansion.

Choose ""Who Am I" as the inspiration for art derivatives, considering that its internal level mainly focuses on spiritual and spiritual needs. In the author's previous work, "The Empty Phase of Laws", the cover depicts a person sitting on the edge of a cliff and thinking about his identity, source, and future direction, precisely about the presentation of man and his inner needs, showing the internal relationship.

In the design process of derivatives, the focus is mainly on the tea barn. Considering the external and intermediate levels, from tea cakes to tea sets to tea barns, the tea barn, as a hollow container, represents the thinking in the "empty phase of various laws." When rotating the head of the tea barn to take out the tea leaves, this behavior echoes the characters in the work and the ideas that the work wants to express. The reinterpretation of the characters' characteristics in the artistic transformation, combined with the artistic effects of the three colors of the Tang Dynasty, results do not show clear characters intuitively but are intended to reveal their deep connotations.

In the design of this derivative, form and function account for 15%, respectively, while its meaning occupies a dominant position, reaching 70%. This is mainly to stimulate people's thinking and make them deeply reflect on the "Who

Am I" question and related philosophical thinking. The conversion process of derivative design is shown in **Figure 9**.

In the art derivative "Who Am I", the characters in the original work are integrated, creating a unique emotion and atmosphere. This work mainly uses China Red as the primary color, giving people an artistic feeling that seems saturated with the tri-colored Tang Dynasty. The fiery glaze not only represents the fiery life but also implies the cycle of life: fire nourishes the land, and the soil shapes life in the artist's hands, reflecting life's fleeting rebirth. The artistic derivatives are shown in Figure 10.

# 4. Art Derivatives Consumer Questionnaire

# 4.1. Questionnaire Design

In order to explore the audience's appreciation and evaluation of art derivatives, according to the above discussion, this study summarizes the evaluation attributes through three levels: cultural space, design level, and consumption experience (Norman, 2004; Lin, 2005; Schmitt, 1999), in order to better understand how consumers view and understand art derivatives from three perspectives: cultural space, design level, and consumption experience, and to further provide practical suggestions for improving the design and consumption experience of art derivatives. The scale of the evaluation topic is Likert 5-point scale, and the options are "special non-conformity", "non-conformity", "general conformity", and "special conformity." Each option is scored as 0, 1, 2, 3, and 4. The higher the score, the higher the appreciation of the art derivative for consumers.

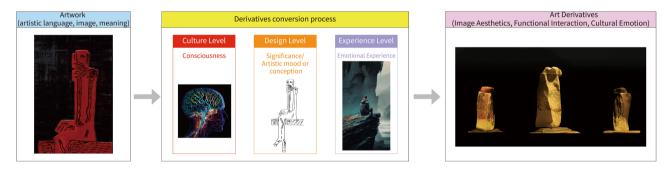


Figure 9. Conversion process of "Who Am I" derivatives design.



Figure 10. "Who Am I" art derivatives.

The questionnaire is shown in **Table 1**.

# 4.2. Subjects

This study aimed to collect data from a diverse and relevant demographic to ensure the validity and applicability of our findings. A total of 137 valid question-naires were collected through physical surveys. To align the participant profile with the study's objectives, we specifically focused on respondents with a certain level of educational attainment. Consequently, respondents with a high school education or below were excluded from the analysis. This decision was based on the assumption that a higher academic level might correlate with a greater understanding and appreciation of art derivatives, which is central to our study. After applying this criterion, the final sample size for analysis comprised 96 respondents.

The demographic characteristics of the participants are detailed in **Table 2**. The sample consisted of 57 males (59.37%) and 39 females (40.63%), offering a balanced gender representation. Age-wise, the participants were distributed as follows: 50 individuals aged 18 - 30 (52.08%), which likely represents the contemporary views and trends in art derivatives; 37 individuals aged 31 - 50 (38.54%), encompassing mid-career professionals who might have a different perspective on art derivatives; and nine individuals over 51 (9.38%), offering

Table 1. Questionnaire of art derivatives survey.

Evaluation orientation	Assess problems
Cultural Space	1. I think this art derivative contains special intangible spirit such as meaning, story, emotion and cultural characteristics.
	2. I think this art derivative has a specific ceremony or custom.
	3. I can accurately understand the artistic conception of the art derivative, that is, the idea conveyed by the designer.
Design level	1. I noticed the external characteristics of art derivatives, such as color, texture, modeling lines, surface ornamentation, detail treatment, construction composition and so on.
	2. I think the art derivative takes into account its operability, safety, functionality, convenience of use, structure, combination and so on.
	3. I am satisfied with the different states of the art derivative before, during and after its use.
Consumption experience	1. I think this art derivative has a good sensory experience in vision, hearing, smell, taste, and touch.
	2. I think the consumption of this art derivative has brought me special emotional experiences, such as joy, excitement and satisfaction.
	3. I think the process of selecting, purchasing and using this product is smooth.

insights from a more experienced demographic.

In terms of education level, the distribution was 51 with a university degree (53.13%), 32 with a master's degree (33.33%), and 13 with a doctorate (13.54%). This educational diversity ensures various viewpoints and understanding levels regarding art derivatives. Professionally, 59 respondents (61.46%) were from design-related fields, and 37 (38.54%) were from non-design-related areas. This mix was intended to gauge the perception of art derivatives among those with professional design knowledge and those without, thus enriching the study's insights.

Lastly, regarding experience with purchasing art derivatives, 61 respondents (63.54%) had bought them, and 35 (36.46%) had not. This distinction was critical to understanding the direct consumer experience's influence on the perception and appreciation of art derivatives.

# 4.3. Questionnaire Results

#### 4.3.1. Two-Factor ANOVA Analysis

This paper discusses the influence of derivatives (intra-subject factor) and gender (inter-subject factor) on many evaluation indexes. Derivatives include three categories, A, B, and C, and distinguish men and women in terms of gender. The analysis of variance of two factors through repeated measurement shows that the scores of derivatives A, B, and C between the sexes are different in nine items, such as paying attention to external characteristics, good sensory experience, special emotional experience, smooth use process, considering usability, being satisfied with use, containing intangible spirit, a particular ceremony or custom, and understanding artistic conception and thoughts, with significant differences (p < 0.05). Comparing the scores of derivatives A and C, it is found that the scores of derivatives A are lower than those of derivatives C, and the difference is

**Table 2.** Demographic characteristics of the research sample (N = 96).

Variable	Option	number of people	Percentage (%)
Gender	Male	57	59.37
Gender	Female	39	40.63
	18 - 30 years old	50	52.08
Age	30 - 50 years old	37	38.54
	51 years old and above	9	9.38
	undergraduate college	51	53.13
Level of Education	master	32	33.33
	doctor	13	13.54
Educational	Design-related major	59	61.46
Background	Non-design related majors	37	38.54
Bought Art	yes	61	63.54
Derivatives	no	35	36.46
	·	<u> </u>	

significant (p < 0.05). Comparing the scores of derivatives B and C, it is found that the scores of derivatives B are significantly lower than those of derivatives C (p < 0.05), except that there is no significant difference in the scores of external characteristics (p > 0.05). Comparing the scores of derivatives A and B, it was found that the score of derivative B was significantly higher than that of A (p < 0.05). The score of exceptional emotional experience, satisfaction with use, and intangible spiritual derivative B was significantly lower than that of A (p < 0.05). There was no significant difference between the scores of derivatives A and B in the other five items (p > 0.05). The scores of subjects of different genders only differ in the unique emotional experience item. There is a significant difference (p < 0.05), and the scores given by men are significantly higher than those given by women (p < 0.05). However, there is no significant difference in the scores of other genders (p > 0.05). There is no interaction between derivatives and gender in the nine items (p > 0.05), and the results are shown in Table 3.

This paper discusses the influence of derivatives (intra-subject factors) and education (inter-subject factors) on many evaluation indexes. Derivatives include three categories: A, B, and C, and education is divided into design and non-design-related majors. The analysis of the variance of two factors through repeated measurement shows that the scores of derivatives A, B, and C are different in nine items: paying attention to external characteristics, good sensory experience, exceptional emotional experience, smooth use process, considering usability, being satisfied with use, containing intangible spirit, specific rituals or customs, and understanding artistic conception and thoughts, with significant differences (p < 0.05). Comparing the scores of derivatives A and C, it is found that the scores of derivatives A are lower than those of derivatives B and C, it is found that the scores of derivatives B are significantly lower than those of

Table 3. Analysis results of the average and variance of derivatives and gender factors in each measurement variable.

		Derivative		Geı	nder	Ci-miG m4 i4
	A (n = 96)	B (n = 96)	C (n = 96)	Male (n = 57)	Female (n = 39)	Significant items $(p < 0.05)$
1. Pay attention to external characteristics	2.92	3.92	3.91	3.57	3.60	Derivative
2. Good sensory experience	3.04	3.00	4.01	3.46	3.20	Derivative
3. Special emotional experience	2.97	2.70	3.89	3.35	2.94	Derivatives, Gender
4. Smooth use process	3.32	3.43	3.94	3.67	3.41	Derivative
3. Considering usability	3.14	2.90	3.56	3.21	3.18	Derivative
4. Satisfied with the use	3.08	2.64	3.72	3.22	3.04	Derivative
5. Contain intangible spirit	2.96	2.67	3.82	3.25	3.01	Derivative
6. A particular ceremony or custom	3.01	2.88	3.65	3.26	3.06	Derivative
7. Understand artistic conception and thought	2.96	2.93	3.71	3.29	3.06	Derivative

derivatives C (p < 0.05), except that there is no significant difference in the scores of external characteristics (p > 0.05). Comparing the scores of derivatives A and B, it was found that the score of derivative B was significantly higher than that of A (p < 0.05). The score of exceptional emotional experience, satisfaction with use, and intangible spiritual derivative B was significantly lower than that of A (p < 0.05). There was no significant difference between the scores of derivatives A and B in the other five items (p > 0.05). No significant difference exists in the scores the subjects gave on the nine items, regardless of whether they have a design professional background (p > 0.05). Only in the specific ritual or custom items are interaction effects between derivatives and educational background (p < 0.05). There is no interaction between derivatives and educational background in the other eight items (p > 0.05), and the results are shown in **Table 4**.

This paper discusses the influence of two main variables, derivatives (intra-subject factor) and derivatives purchase experience (inter-subject factor), on many evaluation indexes. Derivatives include three categories: A, B, and C, and derivatives purchase experience can be divided into two categories: those who have bought and those who have not. The analysis of the variance of two factors through repeated measurement shows that derivatives A, B, and C have different scores in nine items: paying attention to external characteristics, good sensory experience, exceptional emotional experience, smooth use process, considering usability, being satisfied with use, containing intangible spirit, specific rituals or customs, and understanding artistic conception and thoughts, with significant differences (p < 0.05). Comparing the scores of derivatives A and C, it is found that the scores of derivatives A are lower than those of derivatives C, and the difference is significant (p < 0.05). Comparing the scores of derivatives B and C, it is found that the scores of derivatives B are significantly lower than those of derivatives C (p < 0.05), except

**Table 4.** Analysis results of the average and variance of derivatives and educational background factors in each measurement variable.

	Derivative			Education	al Background	Ciamificant items
	A (n = 96)	B (n = 96)	C (n = 96)	Design (n = 59)	Non-design (n = 37)	Significant items $(p < 0.05 \text{ and above})$
1. Pay attention to external characteristics	2.92	3.92	3.91	3.63	3.50	Derivative
2. Good sensory experience	3.04	3.00	4.01	3.32	3.41	Derivative
3. Special emotional experience	2.97	2.70	3.89	3.07	3.37	Derivatives
4. Smooth use process	3.32	3.43	3.94	3.49	3.68	Derivative
5. Considering usability	3.14	2.90	3.56	3.10	3.35	Derivative
6. Satisfied with the use	3.08	2.64	3.72	3.06	3.28	Derivative
7. Contain intangible spirit	2.96	2.67	3.82	3.06	3.29	Derivative
8. A particular ceremony or custom	3.01	2.88	3.65	3.10	3.31	Derivatives, Derivatives * Educational background
9. Understand artistic conception and thought	2.96	2.93	3.71	3.11	3.33	Derivative

that there is no significant difference in the scores of external characteristics (p > 0.05). Comparing the scores of derivatives A and B, it is found that the score of derivative B in paying attention to external characteristics is significantly higher than that of A (p < 0.05). In comparison, the score of derivative B in using satisfaction is significantly lower than that of A (p < 0.05). There is no significant difference between the scores of derivatives A and B in the other seven items (p > 0.05). The scores given by the subjects in the purchase experience differ only in the item of exceptional emotional experience. There is a significant difference (p < 0.05). The scores given by those with purchase experience are significantly higher than those without purchase experience (p < 0.05). However, there is no significant difference in the scores given by other items (p > 0.05). Only in the unique emotional experience item is an interaction effect between derivatives and purchasing experience (p < 0.05). However, the other eight items have no interaction effect between derivatives and purchasing experience (p > 0.05). The results are shown in **Table 5**.

#### 4.3.2. Multiple Regression Analysis

The stepwise multiple linear regression analysis revealed that the independent variables—gender, educational background, purchasing experience, attention to external characteristics, good sensory experience, smooth use process, consideration of usability, satisfaction with use, intangible spirit, specific rituals or customs, and understanding of artistic conception and thoughts—significantly predict the dependent variable, special emotional experience. With an F-statistic of 68.790 and a corresponding p-value less than 0.01, the model surpasses the threshold for overall significance. Adjusted R-squared at 0.32 indicates that our model explains a substantial 32% of the variance in special emotional experience.

Table 5. Analysis results of the average and variance of derivatives and educational background factors in each measurement variable.

	Derivative Purchasing experi		experience			
	A (n = 96)	B (n = 96)	C (n = 96)	Yes (n = 61)	No (n = 35)	Significant items $(p < 0.05 \text{ and above})$
1. Pay attention to external characteristics	2.92	3.92	3.91	3.59	3.56	Derivative
2. Good sensory experience	3.04	3.00	4.01	3.38	3.30	Derivative
3. Special emotional experience	2.97	2.70	3.89	3.33	2.92	Derivatives, buying experience, derivatives * buying experience
4. Smooth use process	3.32	3.43	3.94	3.64	3.42	Derivative
5. Considering usability	3.14	2.90	3.56	3.12	3.33	Derivative
6. Satisfied with the use	3.08	2.64	3.72	3.16	3.12	Derivative
7. Contain intangible spirit	2.96	2.67	3.82	3.23	3.01	Derivative
8. A particular ceremony or custom	3.01	2.88	3.65	3.19	3.16	Derivatives
9. Understand artistic conception and thought	2.96	2.93	3.71	3.18	3.23	Derivative

Notably, good sensory experience and satisfaction with use were found to be significant contributors, with t-test p-values below 0.05, as shown in **Table 6**. The standardized regression coefficients for good sensory experience (0.438) and satisfaction with use (0.232) further elucidate their prominent roles in influencing special emotional experience.

In a separate model, where specific rituals or customs serve as the dependent variable, the same set of independent variables was examined. The model presents an F-statistic of 63.611 and p-value less than 0.01, maintaining its significance. The adjusted R-squared value of 0.30 demonstrates that the model accounts for 30% of the variability in specific rituals or customs. Within this model, intangible spirit and understanding of artistic conception and thoughts emerged as significant factors, with both exhibiting p-values under 0.05, and standardized regression coefficients of 0.384 and 0.288, respectively, as depicted in Table 7. These outcomes suggest the profound impact of intangible cultural elements and the cognitive processing of artistic content on the formation and perpetuation of specific rituals or customs.

Furthermore, the third model investigated the influence of the independent variables on the understanding of artistic conception and thoughts. This model's performance, with an F-statistic of 44.984 and a p-value less than 0.01, also signifies a meaningful fit. An adjusted R-squared of 0.24 indicates that 24% of the variance in the understanding of artistic conception and thoughts can be explained by the model. Specific rituals or customs, and satisfaction with use, proved to be significant with p-values below 0.05, and their standardized regression coefficients were 0.368 and 0.253, respectively, as outlined in **Table 8**. These findings underscore the considerable influence of cultural practices and user

**Table 6.** Results of stepwise multiple linear regression with special emotional experience as dependent variable.

		ndardized fficient	Standardized Coefficient	Т	P-value	Collinearity Statistics	
	В	Standard Error	Beta	1	r-varue	Tolerance	VIF
Constant	0.837	0.210		3.986	0.000		
Good Sensory Experience	0.469	0.057	0.438	8.268	0.000	0.844	1.185
Satisfaction with the Use	0.247	0.056	0.232	4.375	0.000	0.844	1.185
$\mathbb{R}^2$			0.	32			
Adjusted R <sup>2</sup>		0.32					
F	68.790**						
Durbin-Watson			1.3	764			

Dependent variable: special emotional experience \*\*p < 0.01.

**Table 7.** Results of stepwise multiple linear regression with specific rituals or customs as dependent variables.

		ndardized efficient	Standardized Coefficient	<b>m</b>	D1	Collinearity Statistics		
	В	Standard Error	Beta	Т	P-value	Tolerance	VIF	
Constant	1.099	0.195		5.645	0.000			
Special emotional experience	0.360	0.049	0.384	7.309	0.000	0.877	1.140	
Understand artistic conception and thought	0.295	0.054	0.288	5.482	0.000	0.877	1.140	
$\mathbb{R}^2$			C	.31				
Adjusted R <sup>2</sup>			0	.30				
F	63.611**							
Durbin-Watson			1.	.872				

**Table 8.** Results of stepwise multiple linear regression with understanding artistic conception and thought-specific ceremony as dependent variables.

		ndardized efficient	Standardized Coefficient	Т	P-value	Collinearity Statistics		
	В	Standard Error	Beta	1	P-value	Tolerance	VIF	
Constant	1.275	0.212		6.005	0.000			
Special emotional experience	0.360	0.052	0.368	6.962	0.000	0.953	1.049	
Understand artistic conception and thought	0.248	0.052	0.253	4.779	0.000	0.953	1.049	
$\mathbb{R}^2$			C	0.24				
Adjusted R <sup>2</sup>			C	0.24				
F		44.984**						
Durbin-Watson			1.	.904				

satisfaction on the understanding of artistic conception and thoughts.

# 4.3.3. Favorite Art Derivatives Analysis

Further, explore the subjects' preferences for various derivatives and analyze the "Favorite art derivatives" selected by the subjects. Considering that gender, educational background, and purchasing experience may affect the choice of subjects, the results are shown in Table 9. According to the chi-square test, there is no apparent statistical difference in gender, educational background, and purchasing

**Table 9.** The number of people who are selected as the favorite for each derivative.

Derivative -	Gender		Gender Educational Background			Purchasing experience		
Derivative -	Male (n = 57)	Female (n = 39)	Design (n = 59)	Off-design (n = 37)	Yes (n = 61)	None (n = 35)		
A	13	7	13	7	13	7		
В	13	10	15	8	16	7		
С	31	22	31	22	32	21		

experience between those who prefer derivative A and those who prefer derivative B and C (p > 0.05).

From the gender perspective, both male and female subjects prefer derivative C. Among 57 male subjects, 31 chose derivative C as their favorite work, accounting for 54% of male subjects. Among the 39 female subjects, 22 chose C, accounting for 56% of the female subjects, which shows that C has universal attraction between sexes, while derivatives A and B are more evenly selected between men and women. From the educational background, 59 people have design-related backgrounds, among which 31 chose derivative C, accounting for 52%. Of the 37 people with non-design backgrounds, 22 chose C, accounting for nearly 59%. From the purchasing experience, among 61 people with purchasing experience, 32 people chose derivative C, accounting for 52%. Among the 35 people without purchasing experience, 21 chose derivative C, accounting for 60%.

As a result, derivative C won over half of the support rate in all categories. No matter which group of subjects, derivative C is the first choice. This strongly indicates that derivative C is relatively attractive in all aspects. Derivatives A and B also have some support in some specific groups, but they are still far below C.

#### 4.4. Discussion

The results show apparent gender differences in the nine evaluation indexes of derivatives A, B, and C, and the scores of men are generally higher than those of women. This may imply that some characteristics or elements in the design of derivatives are more attractive to male audiences. When comparing the differences among the three derivatives, the score of derivative A in all evaluation items is generally lower than that of C. This means that derivative A may only partially meet the audience's expectations in some aspects. In comparing derivative B and derivative C, B has a low score in most evaluation items except external characteristics. The comparison results between derivative B and derivative A are more complicated. There are significant differences between them in some specific evaluation items but little differences in others.

The design philosophy and emphasis of derivatives A, B, and C are different, which may be the main reason for the difference in evaluation. Derivative A mainly emphasizes the visual effect, and the innovation in appearance has re-

ceived particular attention; Derivative b focuses on functionality, and its design philosophy focuses on letting users experience art through the daily activity of making tea; Derivative C mainly emphasizes the meaning of the work, hoping to stimulate people's philosophical thinking through its design. These results show that although design plays a vital role in art derivatives, its function and significance also have a crucial impact. Different derivative design strategies may have different appeal to different gender audiences, so when designing derivatives, the design focus should be determined according to the needs and preferences of the target audience. Compared with previous studies, function and meaning must also be considered when designing art derivatives, besides appearance, because they will have a crucial impact (Chen, 2011). Different design strategies may attract different genders, so we must pay attention to the needs and preferences of the target audience. Gender-neutral design is becoming more and more important in all fields of design, and it is also essential to find a balance between male and female design elements (Orana, 2017). Therefore, to make art derivatives succeed in the market, designers should not only consider the visual effect of the products but also ensure that their functionality and significance can meet the audience's needs and pay attention to the needs and preferences of the target audience. Neutral design is becoming more and more critical. It is essential to find a balance between male and female design elements and consider the use environment of design elements.

There are apparent differences in educational background in nine evaluation indexes of derivatives A, B, and C, and there are also significant differences among derivatives in most evaluation items. This reflects that different derivative designs have different attractions for subjects with different educational backgrounds. However, regardless of whether the subjects have a design background, the scores of the nine evaluation items are similar. On the surface, although the design differences of derivatives affect the evaluation, the educational background has no apparent influence on these evaluations. Therefore, whether you have a design background or not, you can evaluate the design of art derivatives, and the design itself is more important than the educational background of the evaluator (Ninad, 2019). In addition, the evaluation item of a specific ceremony or custom presents an interactive effect between derivatives and educational background. This may mean that some derivatives are more prevalent in specific educational backgrounds, or subjects with particular educational backgrounds are more attracted to some derivatives.

This paper discusses the three categories of derivatives A, B, and C and the purchasing experience of subjects in order to understand their influence on nine evaluation indexes. The results show that derivative C may be attractive in design, function, or other related aspects. However, the difference between derivative A and derivative B is slight. There are only significant differences in the two evaluation items of "paying attention to external characteristics" and "being satisfied with the use", which means that although A and derivative B may be different in some aspects, the subjects do not feel much difference in the overall

evaluation.

Regarding purchasing experience, subjects with purchasing experience scored significantly higher on the "special emotional experience" evaluation item than subjects who had never bought it. Subjects with apparent purchasing experience have a more profound experience and understanding of derivatives, which has a stronger emotional connection with them. However, in other evaluation items, the purchase experience did not cause noticeable evaluation differences, indicating that the influence of purchase experience on most evaluation items is not significant. Only in the "special emotional experience" project is there an interactive effect between the types of derivatives and the purchasing experience, which may mean that some derivatives can produce a more robust emotional experience in a specific purchasing experience. Fernando's (2023) research also shows that the types of derivative products have a more significant impact on the evaluation of subjects, while the purchase experience only shows its influence in certain circumstances. When influencing the evaluation of subjects, the design of derivative products itself is more important than the purchase experience.

## 5. Conclusion

Through an in-depth discussion of the relationship between artworks and their derivatives, this study puts forward a transformation process of artistic derivatives, transforming artworks into artistic derivatives. Further, it explores the mutual influence of culture, design, and experience. Through this framework, we can understand how works of art can be transformed into derivatives with unique experiences through different design strategies and meanings, as shown in Figure 11.

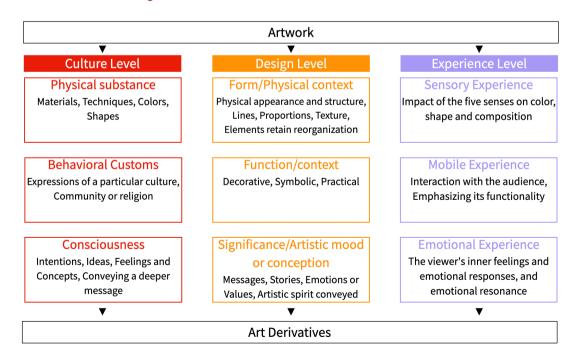


Figure 11. Art derivatives conversion flowchart.

At the cultural level, tangible material is the most direct and concrete part of art when artists convert it into art derivatives. It involves the physical characteristics and characteristics of works of art, such as the materials, techniques, colors, and shapes used. These tangible elements may be directly quoted, imitated, or recreated when converted into derivatives. For example, a specific painting color may be used in derivative ceramic products, or the shape of a sculpture may be transformed into a jewelry design. Behavior and customs are related to how works of art are used, appreciated, and interacted with by people. A work of art may express a particular culture, community, or religion with specific rituals or customs. When works of art are transformed into derivatives, these behaviors and customs may be integrated into the use or experience of derivatives. For example, a work of art representing prayer may be transformed into an object that people can use for meditation or prayer at home. The spirit of consciousness is the deepest and most abstract part of a work involving the artist's intentions, thoughts, emotions, and ideas. A work of art is a visual expression and a bridge between artists and audiences, conveying some profound message or emotion. When works of art are transformed into derivatives, this consciousness and spirit should be preserved and embodied in new forms. For example, a painting expressing love and peace may be transformed into an ornament, and its design and materials will continue to convey these values and feelings.

Form, function, and meaning at the design level are also indispensable elements that ensure that derivatives are beautiful and practical and genuinely reflect and continue the value and spirit of the original. Form in art usually refers to the physical appearance and structure of art, such as color, line, shape, proportion, texture, etc. It is a direct way for artists to express their views and feelings. When converted into derivatives, these forms of elements may be retained, reinterpreted, or adjusted to adapt to new media or functions. For example, the colors and lines of a painting may be used in the design of a T-shirt.

In the functional context, although works of art are mainly used to express and embody the artist's emotions and opinions, sometimes they may also have specific functions, such as decoration or symbolism. Function becomes more critical in derivatives. Derivatives should reflect the spirit of the original works of art and be practical. For example, a sculpture-based design can be transformed into a functional desktop storage box. Finally, meaning is the core of a work of art, which involves the message, story, emotion, or values the artist wants to convey. Every work of art has its unique background and significance. When a work of art is transformed into a derivative, its original meaning should be preserved and embodied in a new form. Derivatives should respect and continue the meaning and spirit of the original works of art. For example, a painting expressing nature and peace can be transformed into a reusable shopping bag made of environmentally friendly materials.

These three experiential aspects—sensory, action, and emotional experiences—facilitate a holistic and profound engagement with art derivatives. They allow in-

dividuals to grasp the aesthetic elements and the original artworks' more profound value and significance. For instance, transforming a painting into a scented candle enriches the sensory experience beyond visual appreciation to include olfactory elements. Similarly, converting an image into a functional notebook highlights the practical application of art in daily life, enhancing the action experience. Moreover, the emotional resonance evoked by art is vital in derivatives, preserving and amplifying the emotional essence of the original works across varied contexts and forms.

The implications of this study are significant for the art derivatives market, particularly for artists and market strategists. By understanding these experiential dimensions, artists and marketers can more effectively showcase the unique value of art derivatives, thus fostering deeper appreciation and broader accessibility. This approach empowers artists to promote their work confidently and ensures that a wider audience can engage with and value these artistic derivatives. Future research could delve into additional variables influencing art derivatives' perception, such as cultural background, personal experiences, or levels of art education. This expanded inquiry would offer a more nuanced understanding of the market dynamics and consumer preferences, ultimately guiding the development of art derivatives that resonate with a diverse audience.

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#### **Conflicts of Interest**

The authors declare no conflicts of interest regarding the publication of this paper.

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