A Study of Visual Merchandising in Online Celebrity Sweet Shop from the Postmodern Perspective -Take "Holiland" Theme Dessert Shop as an example.

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Abstract. Postmodernism, as the opposition of modernism, tells the dissatisfaction with modernism in a decentralized, diversified and anti-authoritative way. With the progress of technology and the upgrading of consumption, postmodernism has penetrated into every aspect of our lives. This paper attempts to analyze the characteristics of post-modernism, and then summarizes the visual merchandising model of online celebrity dessert shop under post-modernism by combining communication and psychology with the visual merchandising method of holiland theme dessert shop.

Keywords: postmodernism; Visual merchandising; Consumerism; Communication process; media

1 Introduction

"Postmodernism" is a cultural trend of thought that originated in the early 1960s. As a cultural trend, it "reflects some aspects of the changes of this era with a kind of art that has no depth, no center, no basis, self-reflection, games, simulation, eclecticism and pluralism" [1]. With the completion of modernization and industrialized society, people's basic material needs have been met, so they began to realize the liberation of individual spirit in a material-rich world. Jean Baudrillard, a French post-modernist philosopher, pointed out in Consumer Society that the present society has entered a post-modern period.

As the opposition of modernism, postmodernism delivers the right to speak from the elite to the public in a decentralized, diversified and anti-authoritative way. Nowadays, with the rapid development of the Internet, its existence has built a spiritual paradise on which users are strongly dependent. The emergence of new technology reshuffles the discourse right of communication and distributes it to the public, so that the public can produce their own content more freely in the new technology space. The distribution of discourse power brings more diversified personality liberation to the public. It brought the public into a utopian network world where everyone was equal, and promoted the return of "square politics" in ancient Greece. "It broke the division of space and the discipline of power on the body by constructing a square-like public dialogue space, and provided an appropriate scene for people to express their views, communicate their opinions and participate in politics." [2] All users from different cultures and classes participate in the "Square" to show their personalities and construct new meanings and scenes in the discussion.

ADDT 2023, September 15-17, Xian, People's Republic of China

DOI 10.4108/eai.15-9-2023.2340883

Consumerism has never been involved in all aspects of society, and the characteristics of fragmentation, popularization, liberalization and diversification of mass life are exactly the same as those of "deconstruction and anti-elitism" in postmodernism. As the consumer carrier of the public, it is a great challenge for the transformation of the times to grasp the post-modern design rules. This paper will analyze the communication characteristics of visual merchandising in the main cake shop of holiland in the post-modern context, and reflect on the design characteristics of the post-modern period, and get the visual merchandising method suitable for dessert shops in the post-modern context.

2 Post-modernism characteristics

If we want to analyze the external performance of Lilly dessert shop in the post-modern period, we must understand the overall internal characteristics of the post-modern period. Here, I summarize the views of German philosopher Welsch (W) on post-modernism: 1. The change of popular ideas brings the legitimacy of fragmented information; 2. Abandoning the language mode of identity and subjectivity; 3. The liberation of individual pluralism; 4. The rise of non-mainstream culture; 5. Pluralism opposes unified hegemony.

2.1 the disintegration of meta-narrative, the prevalence of mini-narrative

The ideological hegemony against everything in the post-modern era is the era of disintegration of large and unified grand narratives, leaving many small narratives, which are relatively independent and difficult to be attributed to the same grand narrative. Each small narrative has its own independent status and rules, so there will be no unified objective truth. "'Post-modernism' marks the collapse of all kinds of meta-stories with universal significance, and has heard increasing different voices. These voices insist on seeking differences, advocate cultural diversity, admire a hundred schools of thought, and oppose a single flower." [3]

2.2 decentralized, open discourse form

The original unified and core hegemonic communication right gradually disintegrated in the era of gradual opening up, and the right to speak was redistributed from the media to the public. At the same time, the public's questioning of high-level discourse inevitably brings the characteristics of decentralization in the post-modern period, and the right to speak is also developing in a diversified direction.

2.3 Oppose "binary opposition" and tend to "multi-collage"

The "binary antithesis of right and wrong" presented in modernism seems to be a tool to occupy ideas in postmodernism. In the post-modern period, the common development of many ideas advocates the adoption of "a patchwork of ideas or consciousness that is free-flowing, composed of fragments and irrelevant." It includes the corresponding links such as the new and the old. It denies regularity, organization or symmetry; It is complacent with contradictions and chaos. " [4]

2.4 Shallow, emphasizing planarization

With the fragmentation of the times and the impact of fast-paced life, the deep-seated

stimulation gradually shifts to the surface. "Planarization, also known as superficiality, refers to the disappearance of the depth of aesthetic significance of works" [5]. From internal to external, from history to present, from real to unreal, from signified to signifier.

Vertically, shallowness means the disappearance of the sense of history. In modernism, history is a feeling, a feeling and nostalgia for the past. For the post-modern period, history is just a story and a symbol, which can be arranged and applied at will. "The original awe-inspiring interpretation of history has become a ridiculous reflection" [6].

Horizontally, the depth of culture gradually becomes flat, and the images presented have no depth. In postmodernism, the excavation of cultural depth is despised, and there is no connotation, no need for explanation, and what you see is what you get. In the post-modern era, culture no longer belongs only to elites. The popularization of culture and thought makes the boundary between elite and public blurred, and elite and public can discuss the same problem on the same platform. In the post-modern context, the relationship between the elite and the public is no longer subordinate. With the collapse of authority, the relationship between them gradually becomes blurred.

In the post-modern society, production and consumption are unprecedentedly prosperous. "In terms of demand and consumption in the post-modern economy, the social and cultural patterns of demand and consumption have changed. Contemporary consumerism is changing from mass consumption to consumption full of aesthetic and cultural significance "[7]. In the post-modern context, consumption is no longer a simple material enjoyment, but a spiritual pleasure.

3 The analysis of post-modern characteristics of Hollyland theme dessert shop in visual merchandising.

With the prevalence of consumerism, the intervention of post-modern characteristics, the rise of young sub-cultural groups and the support of the Internet. The traditional visual merchandising model is no longer enough to meet the demands of contemporary consumers. Holiland meets people's consumption demands in the post-modern period through a series of visual merchandising designs during the period of time transformation. Based on the study of visual merchandising's design of Holiland, this paper analyzes the changes of visual merchandising in the post-modern context and reflects on the characteristics of visual merchandising in the post-modern.

3.1 experiential consumption dominated

With the abundance of material level and the gradual improvement of consumption level, traditional practical consumption can no longer meet people's consumption aspirations in the post-modern period. Nowadays, with the prevalence of consumerism, the new type of experiential consumption can better meet people's consumption demands at this stage. In addition to the product itself, consumers will also spend together with the aesthetics, emotions and grades symbolized by the product. In the post-modernism, people's low-level needs have been met, and they are heading for high-level needs; At the same time, the liberation of people's personality requires the remolding of self-concept, and branding themselves by buying specific goods in order to create a personal image.

By creating a specific "art design" label, Holiland transforms consumers' consumption psychology from simple "buying dessert" to complex "experiencing art" consumption psychology. Holiland Cake Shop only allocates a small part of the space to commodities, and a larger part of the space is used to create an "art block", so that after consumers enter the theme store, they not only buy commodities, but also have an "art trend" experience.

3.2 the traditional media to electronic media to change

After the 20th century, the rapid development from paper media to radio and television and then to the Internet has changed the media, but also changed the visual merchandising paradigm of businessmen to different media. In the Holiland theme store, there are only a few paper advertisements, which are replaced by a large number of dynamic advertisements played on the display screen. Some of these display screens are above the consumer's line of sight for display, and the other part is used to divide the space in the store. A large number of display screens increase the cost of the store, but they can give consumers a dynamic, technological and emerging visual experience. At the same time, advertisements used in the display screens can be replaced at any time, which is more convenient. (Figure 1)

Different from the cost limitation of offline screen installation, online internet communication gives a bigger stage to dynamic images. With the popularity of big data push short video app, static pictures are difficult to meet the audience's instinctive visual needs, and dynamic video has become the mainstream of online communication. In the online and offline advertising design, Hollyland did not adopt the calm and ideal design style presented by internationalism, but used a large number of dynamic and emotional images, which brought the relationship between consumers and brands closer and improved the internal consumption experience of consumers. (Figure 2)

Figure 1: The big screen everywhere in the theme store of holiland market.

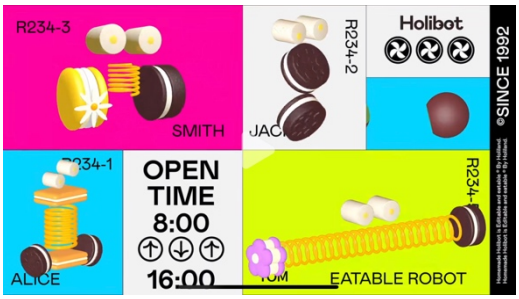

Figure 2: Screenshot of advertising video of holiland theme store.

3.3 "experiential" text visual design

From modernism to post-modernism, one of the most obvious changes is the shift of the meaning of "text", and the text gradually changes from the original "signified" to "signifier". In the post-modern period, the text gradually becomes an image. "Deconstruction design almost dispels the meaning of words, which only acts as decorative graphics, and the meaning of language gives way to typesetting." [8]

Holiland uses a lot of text information as decorative patterns in visual design. In visual design of Holiland, the meaning of "text" no longer focuses on the dissemination of information, but more on the existence of decorative elements in design. Compared with the design of other dessert packaging and advertising with a large number of elements piled up, Holiland focuses its visual design on text elements, and decorative bold text with simple illustrations not only does not have the indifference brought by bold text, but also pulls the distance between brands and consumers. (Figure 3) Holiland unifies the design of goods and store space, and consumers consume in the space, projecting the "consumption experience" on the goods, thus contributing to a complete set of experiential visual design.

Figure 3: holiland lab Theme Store Packaging

3.4 Pay attention to the inherent communication of products.

With the abundance of material, the public's demand for products has shifted from "functional value" to "internal transmission" and then upgraded to "emotional expression", expressing more humanized manifestations. For most consumers, the feeling of dessert is a vision of "beauty", and the simple appearance can no longer please consumers' aesthetic needs. It is good to grasp consumers' attitude towards "beauty" and make the appearance of dessert very beautiful and lovely with design and excellent technology (Figure 4). Using anthropomorphic and quasi-materialized design techniques to make desserts into exquisite and small handicrafts, and with the humorous copy on the packaging, consumers can't bear to eat their desserts. Holiland conveys the inherent "beautiful" vision of products to consumers, so that desserts can convey more contents and strengthen communication between products and consumers.

The transmission of emotional information between products and consumers can reveal more humanized expressions, and at the same time, it can strengthen the communication between brands and consumers. "Marketing communication behaviors such as visual design and advertising emphasize' communication' dialogue,' interaction' immediate feedback, and brand relations and fan communities aimed at establishing long-term' communication'." [9]

Figure 4: Beijing Opera Desserts in holiland 1992 Theme Store.

3.5 Joint and co-creation marketing model

Compared with the traditional "originality" and "originality", postmodernism pursues "takenism" which is not limited to form, and all elements can be commercialized, re-created, sold or become a new cultural product. They will quote, carry and even steal classic works or historical symbols, and then make splicing, cross-border joint names and other processing techniques to create new works. Holiland has cooperated with popular artists and designers for many times. The chocolate banana cake (Figure 5) which has cooperated with UCCA Ullens Center for Contemporary Art has also cooperated with dessert shops such as Xicha and Oreo to launch joint desserts or ornaments. Expand consumer groups and expand brand influence while maintaining brand activity.

In addition to the joint series, Hollyland will also directly "steal" historical symbols. For example, Hollyland directly uses "baohouse" which is homophonic with "Bauhaus" as a visual symbol (Figure 6). Using historical symbols of art as visual elements and labeling yourself as "art" can expand consumers engaged in art or design and satisfy consumers' pursuit of "art consumption".

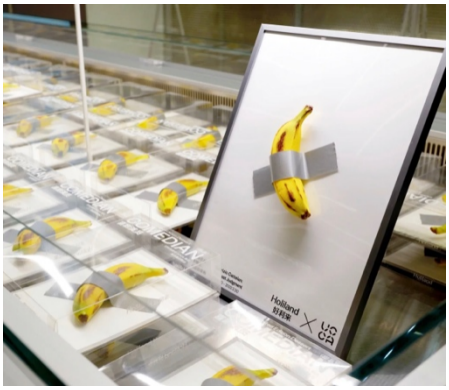

Figure 5: Holiland x UCCA co-branded cake

Figure 6: "Bao Hao Si" in Holiland advertisement

4 Deep learning algorithm

4.1 logistic regression algorithm

Logistic regression analysis, also known as logistic regression analysis, is a generalized linear model. In practical application, logistic regression algorithm is often used for classification. This algorithm can be used for both 2-classification and various classifications, but it is more commonly used for 2-classification.

4.1.1 Main process of logistic regression algorithm

The logical regression algorithm deals with the problem as follows: step 1, build a prediction function and determine whether the model function is linear or nonlinear according to the data; Step 2, a loss function is constructed to detect the difference between the real value and the predicted value, and the smaller the difference between them, the better the prediction effect; Step 3, calculate the parameters. When calculating the parameters, the gradient descent method is selected to gradually reduce the value of the loss function through iteration. However, when the amount of data is large, the gradient descent algorithm will be slow to execute, so random gradient descent algorithm appears to optimize. Solve the optimal model parameters, get the parameters, bring them into the prediction function, and then test and verify the quality of our solved model.

4.1.2 Advantages of logistic regression

(1) The algorithm has the advantage of fast training speed because of its small amount of calculation. (2) The algorithm can occupy relatively small memory resources, and only the eigenvalues of each dimension can be stored. (3) The model has good interpretability and is simple and easy to understand. (4) The calculation cost is low and easy to realize. (5) Applicable to continuous and categorical independent variables.

4.1.3 shortcomings of logistic regression

The disadvantage of logistic regression is that it is sensitive to multicollinearity, because the accuracy of the algorithm is not high, so it is easy to produce under-fitting, and the problem of data imbalance is difficult to deal with.

4.2 K nearest neighbor algorithm

KNN is the abbreviation of K-NearestNeighbor algorithm, which is also called K-nearest neighbor algorithm, and it can be regarded as one of the simplest and most basic algorithms in machine learning. The algorithm is to select K nearest neighbor points, and the selected K points belong to which category with the largest number, then the points belong to which category. KNN can be used for both classification and regression, and it is a supervised learning algorithm. For example, in Formula 2-1 and Formula 2-2, KNN algorithm generally uses Euclidean distance to calculate the distance from test data to each training data, in addition, Manhattan distance and Mahalanobis distance can also be used.

Euclidean distance is:

$$(a,b) = \sqrt{(ai-bi)} \quad \llbracket ^2 \rrbracket \qquad \text{(Formula 2-1)}$$

Mahalanobis distance:

$$d(xi,yj)=\sqrt{(xi-yj)T\_(s)} \qquad \text{(Formula 2-2)}$$

4.2.1 advantages of KNN

KNN theory is mature and simple, which can be used for both classification and regression, and its algorithm is simple, easy to understand and realize. KNN is insensitive to outliers and is suitable for multi-classification problems.

4.2.2 shortcomings of KNN

There are also shortcomings in the use of KNN, which belongs to lazy algorithm and has high time complexity. Due to the high dependence of sample balance, when the sample is unbalanced in extreme cases, the classification will definitely be biased, and the sample weight can be adjusted to improve. Compared with decision tree model, KNN model is not interpretable. Most of the time, the sample space is too large, because the calculation is too large and the prediction is slow [10].

4.3 Random forest

Random forest is a kind of supervised learning, and the algorithm is an algorithm for optimizing decision through multiple decision trees. Through self-help resampling technology, it repeatedly randomly selects samples from the original training sample set n to generate a new training sample set to train the decision tree, and then generates multiple decision trees to form a random forest according to the above steps.

N represents the number of training cases (samples), and m represents the number of features.

Input the number of features m, which is used to determine the decision result of a node on the decision tree; Where m should be much less than m.

Sampling n times from n training cases (samples) in the way of putting back samples, forming a training set (bootstrap sampling), and forecasting with the use cases (samples) that are not drawn, and evaluating its error.

For each node, m features are randomly selected, and the decision of each node in the decision tree is determined based on these features. According to these m features, the best splitting mode is calculated.

Each tree will grow completely without pruning, which may be adopted after building a normal tree classifier.

5 Research methods and model building

5.1 Research methods

Combined with the research process of this case, the microstructure of biological protein and painting technology are integrated across borders. In the process of this study, the corresponding structure between image fusion and art works is analyzed, and the model is also based on protein of deep learning. Holiland packaging panoramic painting function optimization, research through multi-modal automatic coding and as the leading center, the establishment of protein art works classification processing device. And optimize protein and its operating system. In the process of protein spatial structure design, according to the machine structure generator and judgment, a number of functions are systematically analyzed, which also lays an open space for the subsequent data function operation. Through the design and generation of famous paintings and the operation of biological protein structure, the content of biological protein diversity and deep learning painting structure is established. In the cross-domain research of protein, the deep learning model framework is designed to verify the database, and then the subsequent software algorithm function structure operation, which can realize the model control of the whole system database.

5.2 the establishment of data simulation training library

Through the establishment of data simulation training library, the original painting data and target image contrast data of protein data are selected in this project design scheme. Analyzing the different data in these aspects and optimizing the function and structure principle of the target database are also the central points of doing a good job in database structure operation. In the process of database principle design of this project, there are many protein sequences, including T, N, C and other physical and chemical properties, such as spiral properties, hydrophilicity and hydrophobicity. According to the arrangement structure of protein, the data are coded and analyzed. Combined with the correlation between protein sequence and art works, the image data is connected with protein through three-dimensional channels. The design of the connecting device can also realize the control of process quantity and the optimization of system quantity, which has positive significance. In the process of operating model design, we can supervise the key data drawing and protein model. The final result of the project will realize the integration of protein and painting technology, including the innovation of different coding forms such as original data and image protein structure, and finally adjust and optimize the structured data and coded data.

5.3 Image information reconstruction

Table 1 Confusion Matrix

Confusion Matrix		predicted value	
		straight	minus
true value	straight	TP（a）	FN(b)
	minus	FP（c）	TN（d）

As shown in Table 1, in terms of image information structure, the information function and information structure will be analyzed. According to the research process, this paper will systematically analyze the functional structure operation of this image and the algorithm structure level in combination with the design mode of the database. In the course of this study, I learned the basic realization of similar data, and also realized the functional structure optimization after data operation. Through this analysis method, the brightness, gray level and change speed involved in the image are adjusted according to the concept of deep learning. The intuitive feeling of the image is analyzed according to the softness of the image and its own intensity, and the best result is obtained in the process of three-dimensional transformation.

6 Research and design process

6.1 Research difficulties

(1) Combining with this research process, we can innovate AI art and its development structure, eliminate large-scale useless data, and keep its structural stability in proportion. It also analyzes the image conversion and micro-function through technology, and realizes the process quantity control. It is better to choose a variety of painting methods based on the genre of art works, the types of painters and paintings, and to construct the painting content characteristics and the works database, which reflects the aesthetic and appreciation standards of art works and creates a new space for the establishment of art libraries. Based on the mapping structure of the two classes, the database device is optimized.

(2) Aiming at amino acid spectrum and specific image, a filter is designed based on the mapping model between them.

(3) According to the corresponding relationship between the two models, the content of style works is analyzed based on the influence of data training and calculation process, and different types of works elements are unified, so that the functional value of works can be developed. In the process of unified calculation, the codec and decoder can be designed according to the automatic refinement coding process.

(4) There are many kinds of heterogeneous data, which involve many disciplines. The design should be carried out according to the subject function and data structure, and the data acquisition system should be analyzed well to ensure the synchronous processing of the operation end and the application end according to the data structure.

(5) By establishing the GAN model, we should try our best to reduce the disappearance of the model collapse gradient and the complicated calculation problems, and also optimize various databases.

6.2 Research innovation

(1) We can use the popular technology in deep learning to generate anti-network GAN for research, develop protein and art works, and realize the leaping model and algorithm.

(2) According to the sequences of various amino acids, the amino acid sequences and the functional structures of specific maps were obtained by various analysis methods. Moreover, the operation performance of amino acid series structure and the image conversion relationship are analyzed, so as to better understand the functional characteristics of similar images and lay the corresponding foundation for the design of amino acid image structure operation principle.

(3) Through the generalized structure design of amino acids, in the process of multi-modal variable automation control, the coding design input is realized, and the heterogeneous data is also analyzed, so as to improve the data operation, complete the establishment of the deep structure model and the function optimization of the deep system.

(4) Develop the integration of art and science, and analyze the impressionistic micro-art generated by deep learning AI. Make a breakthrough in deep learning of the artistic structure, function and operational performance of AI impressionism painting, and realize the innovation of AI artistic structure.

7 Conlusion

Based on Hollyland's visual merchandising strategy, from products to stores and then to users, this paper analyzes its development trend in the post-modern communication context, and provides a visual merchandising model for dessert shops in the current post-modern society: combining new technologies or media, developing the internal meaning of products, jointly expanding the consumption circle, creating minority culture, love women design style, and online users' independent publicity. With the progress of technology and the liberation of ideas, emerging problems emerge one after another, and methods cannot be fixed. Specific visual merchandising means should be designed according to specific problems, and at the same time, new tasks and possibilities will be met with new emerging forms. Based on the research structure of biology, artificial intelligence, and basic painting research, this study aims to explore the feasibility of biology, mathematics, painting, art, and natural sciences through a new approach of deep learning, and to make changes to various data models. Based on the concept of deep learning, conduct a systematic analysis of AI generated impression painting and panoramic art to understand the artistic characteristics of AI generated impression painting. To shape the artistic style of AI products, better present the value of Impressionist art style, and deepen the relevance.

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