

Research on Modern Commercial Space Design Based on User Experience

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Keywords: User experience, commercial space, innovative design

Abstract: With the rapid development of society, commercial space design is facing significant opportunities and challenges. User experience design, as a human-oriented design concept and design method, can create unique and profound experience feelings and impressions for consumers and bring great commercial value for the brand. It is an important way for the innovative design of modern commercial space. This paper explains the definition and connotation of user experience and the connection between user experience and modern commercial space design, and also analyzes the key points and methods of creating user experience by combining with actual cases, which can provide some references for the innovative development and value enhancement of modern commercial space design.

1. Introduction

With the rapid development of society, traditional commercial space design is facing great opportunities and challenges due to consumption upgrades and lifestyle changes. Based on this, how to cope with the shocks and stand out for modern commercial space design has become an important topic. User experience design, as a human-centered design concept and design method, provides an important direction and thought for innovative design of modern commercial space. This paper studies and explores the background, status and ways of the integrated application of user experience and commercial space design, which is of great significance to the innovative development and value enhancement of modern commercial space design.

2. User Experience and User Experience Design

The international standard ISO 9241-210:2010 defines "user experience" as "person's perceptions and responses resulting from the use and/or anticipated use of a product, system or service" ^[1]. It refers to the users' mental activity like perception, reaction or feeling towards the use and/or expectation of use. User experience design, namely the design of user experience, refers to making a good, comfortable, interesting and profound experience for users through creating experiential activities or experiential modes or other means, which is regarded as a human-centered design concept as well as a method of innovative design.

3. Connection between User Experience and Modern Commercial Space Design

Commercial space is a public place that provides relevant products, services and facilities for commercial consumption activities and meets the material and spiritual needs of customers when shopping ^[2]. Commercial space design is a comprehensive design behavior to build a commercial space environment, set ways to display goods, convey and promote brand information and make people a good shopping experience.

With the development of economic and the improvement of living standards, the traditional commercial space design has been unable to meet people's growing demand for consumption. In this context, deep integration of user experience concept and commercial environment has become an important choice for the innovative development of modern commercial space design.

Distinguished from traditional commercial space design, user experience-based commercial space design emphasizes more on the human factors, focuses on the sensory experience, interactive participation and psychological feelings of people in the consumption process and aims to create a unique and profound memory impression for consumers. The development of commercial space experience design can greatly enhance customers' enthusiasm for consumption, improve brand value, promote commercial mode innovation and stimulate commercial potential.

4. Points and Methods of Creating User Experience in Modern Commercial Space Design

In modern commercial space design, we regard the sensory experience of five senses, interactive experience of participation and emotional experience as the design directions, and concretely we can cut in from the innovative application of elements such as design form, material, technology, commercial mode or others to explore the means of creating experiences.

4.1. New Form

Form as the outline image of commercial space, is the most intuitive and obvious visual element of commercial space. Unique form can bring a refreshing visual experience. The form of traditional commercial space design is relatively single and uninteresting without being fully explored; while modern commercial space design cares more about the customers' visual impression of the consumption and pays more attention to the design of the form and image of the space, striving to present a new and unique appearance to catch people's eyes.

The form of commercial space is mainly reflected in two aspects: space combination form and space modeling form.

On space combination form, modern commercial space design breaks regular, simple and straightforward layout of the traditional commercial space design and tries to explore more complex, variable and flexible combination forms like the scattered layout or free-form layout, whose pedestrian flow line is more active and dynamic and in which people can harvest a changing sight of landscapes and a novel and unique sense of " Space-time Travel ". On space modeling form, due to the constraints of design concepts, technical levels and other factors, traditional commercial space design tends to present a simple and stereotypical look that doesn't easily impress the consumers; while relying on the rapid development of new technologies, modern commercial space design begins to create rich and colorful modeling forms, including not only geometric modelings, but also abstract modelings, natural modelings, cartoon modelings, architectural modelings and even the smooth curved surfaces and complex twisted forms generated by the parametric design ^[3], bringing space a strong sense of formality and decoration. For example, the HeyTea DP store in Tianjin Joy City is designed with "cloud" as the theme, in which the partitions adopt the abstracted cloud shapes that bend and stretch, bringing soft visual enjoyment and rich imaginations. In addition, deconstructionist

style tendency gradually emerged in modern commercial space design. Based on the concept of decomposition, this style emphasizes fragmentation, superposition and reorganization. It tends to manifest as the collocation of irregular geometric shapes, or cause a sense of visual complexity, richness or chaos ^[4], which has a strong visual impact and provides more selectivities for form innovation of commercial space.

4.2. New Material

Material is another important visual factor to create good experience in commercial space. Commercial space has a typical property of display, so compared with other spaces such as residential space or office space, the material application of commercial space is more abundant, cutting-edge, trendy and bold. Many new materials and new techniques are efficiently and timely developed and showed in front of consumers, which can highlight the characteristics of the goods, foil the environmental atmosphere and shape the brand image, bringing the customers unique sensory experiences.

New materials in the sense of being completely new are in the minority. The so-called new materials involved in commercial space are often regarded as the new treatment of conventional materials, including: new color treatment, new surface processing and innovative migration.

New color treatment refers to giving the material new color characteristics. This can be applied in (semi) transparent materials such as glass, acrylic and polycarbonate(PC). For example, in recent years there exist stained glass with bright color, gradient glass with soft transitions and even phantom glass with dreamy glossy, which are selected and used appropriately in some boutique eyeglass stores and cosmetics stores. New surface processing refers to giving certain material a new surface texture, which can be applied in materials of metal, wood, paint, glass, etc. For example, the wall finishes of X-Select clothing store in Chengdu use a large area of radium galvanized steel plates that present a mottled, dazzling and fashionable glossy effect; and another example, the elevator enclosure of the Fangsuo bookstore in Chengdu adopts a kind of textured copper material, which creates a view just like the famous painting "Al's Sun" of Van Gogh, being gorgeous and shocking. Innovative migration refers to the effective means of relocating some other functional materials (such as construction materials) reasonably. For example, some stores use color-coated steel plates, hollow block bricks or other construction materials as the display props of merchandise, forming a strong contrast of different materials such as the routine & the special or the fine & the rough, and creating unique visual and tactile sensations.

4.3. New Technology

The development of science and technology has led to a steady stream of new technologies, injecting brand-new vitality into the field of commercial display. New technologies convey rich commodity information through the media of sound, light, color and image, and create multiple experience forms of sight, sound, touch and smell. They bring customers strong sensory impact, interesting interactive experience and deep impression, and effectively improve the mode of business communication and the efficacy of user experience.

Currently the widely used new technologies are mainly centered on the digital technology under the background that everything is media and everything is interconnected. They involve: screen display technology, human-computer interaction technology, projection technology, VR technology and AR technology, etc.

In terms of screen display technology, more and more stores introduce electronic screens into commercial space for static or dynamic display of graphics and videos, bringing fascinating visual perception. For example, in OPPO Beijing Super Flagship Store, the space is placed into six 8-meter-

high LED screen modules which can move randomly and play giant dynamic image, generating a shocking visual effect. In terms of human-computer interaction technology, merchants pay more attention to the two-way interaction between users and commodities, and emphasize more on human participation, interaction and immersion. For example, in IKEA's retail space of sleep goods, customers can interact with bedding, aromatherapy and other commodities by different actions such as touching, blowing and smelling. In terms of projection technology, dynamic and static projection can present beautiful images and add a sense of spatial atmosphere; interactive projection can produce synchronization effects (such as lighting, enlarging, etc.) through sensing people's movements like walking, stopping or turning round, which is extremely infectious; holographic projection can bring a shocking naked-eye 3D visual landscape in commercial display field, creating a luxury feast for eyes and ears. In terms of VR technology, it can realize an immersive experience of commodities for customers in the three-dimensional virtual reality by using the VR glasses, which can be used in many fields like the home furnishings display. In terms of AR technology, it can simulate realistic scenes through a variety of sensing devices, which can be applied as the mean of exhibition and marketing of electronic devices (e.g. cell phones, tablet computers) loaded with AR games, for example, the presenter used AR technology as the demonstration form for their phone game at the Apple Launch 2018.

4.4. New Mode

With the deep mining of customers' demand, more and more new commercial concepts and modes come into being. They cut in from different perspectives to create colorful and memorable experience points for consumers, and greatly broaden the design dimension and design connotation of modern commercial space.

The new concepts and modes involved in the current commercial field include: pop-up shop, composite format (e.g. shops, restaurants) and emotional theme.

Pop-up shop, as a new mode of creative marketing, is a kind of temporary store set up in the busy commercial area that appears suddenly and opens for a very short time by the brand. Pop-up shop is characterized by quickness, and by combining with creative and hot events or thematic scenes it stimulates customers' curiosity and desire for purchase and ultimately realizes the purpose of new product testing, momentum creating and brand promoting, for example, the Carlsberg Shanghai "Core" Lipstick Art Museum and the Chanel "Coco Game Center" in Tokyo Harajuku. Composite format (e.g. shops, restaurants) is another new trend in the development of commerce. Influenced by users' potential demand, modern commercial space design begins to explore the related activities of main commodity services so as to expand into diversified and complex businesses, which can bring customers space experience activities of rich forms and diverse functions. For example, "Normal²ab" Compound Space designed by Simple Space Design, is an interesting collection of photography, design, floristry and light catering; meanwhile some specialty coffee shops are trying to integrate coffee selling with exhibitions, community activities or other functions to enhance the complexity of business and diversity of experience. Emotional theme is an important way to create emotional experience. It aims to move people's deep emotions to achieve emotional communication, resonance and connection between the customer and the brand. For example, the Chic Bus in Hangzhou Yintai Mall, a tech store is designed specifically for women by designer Zhang Xin, who breaks the stereotype that technology belongs to men and uses the emotional concept of "a place with no worries" to create a warm and cozy space for female technology enthusiasts.

5. Conclusion

User experience design, as an important design concept and design method under the background

of experience economy, has been widely applied in both business and design field. In practices of modern commercial space design, we should pay full attention to human needs and explore the experience elements from multiple perspectives. By creating rich experiential activities and good feelings for consumers, experience design programs could enhance users' emotional identity and emotional resonance, and improve the brand's commercial potential and commercial value.

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