

# Research on Emotional Design of Experiential Commercial Retail Space - Take the DIY Jewelry Store for the Elderly as an Example

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## Abstract:

This paper, based on the customer experience, adopts literature research, data analysis, user interviews and other methods. Focus on the current commercial space homogeneity and the aging of the population structure, the three levels of emotional design theory is applied to design strategy in the field of commercial space, which aims to create immersive, personalized, humanized care shopping experience, and satisfy the elderly's special physiological and psychological needs, so as to provide new ideas for the future experience of commercial space.

## Keywords:

Experiential Commercial Space, Emotional Design, the Elderly Group, New Retail

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## 1. Introduction

The current commercial space has the problems of environmental homogeneity and boring experience, which contradicts the advocacy of humanization and individualization in the era of experience economy. In addition, China's population structure is accelerating aging, and the scale of new retail is also expanding. Therefore, the commercial space designed for the elderly has huge consumption potential.

## 2. Research Significance

### 2.1. Related Concepts

#### 2.1.1. Experience and Experience Economic

Experience, is an innate ability of human beings, and it is internal and dematerialized. Experience generated carriers are external and materialistic products, services, space and so on. The cornerstone of experience generation is customer's

participation and interaction [1]. The experience economy is the fourth economic model following the agricultural economy, industrial economy, and service economy. [2]

The characteristics of experience economy can be summarized as memory storage, consumer participation, and heterogeneity. Experiential products are intangible products which face the spiritual level of human beings. In a sense, the products are stored; the production process of experience economy has the direct participation of consumers; the products of experience economy are heterogeneous. In addition, “large-scale tailored customization” is an essential feature of the experience economy. [3]

### ***2.1.2. Experience Business***

Experience Commercial business model is based on a theory of “experience economy”, divided into three stages from the degree of development [4]. They are the initial stage of a reasonable combination of business formats, the intermediate stage with a good environment and the special quality of the space, the advanced stage with a unique cultural experience [5].

### ***2.1.3. The New Retail***

It is a pattern based on the Internet and also known as retail new model. Through the use of big data, artificial intelligence and other advanced technological means, the new retail upgrades and transforms the production, circulation and sales process of goods, reshapes the business structure and ecosystem, and deeply integrates online services, offline experience and modern logistics. Its core essence is to promote the integration process of online and offline, pursue extremely high logistics efficiency, and make consumers’ shopping experience to the extreme. [6]

## ***2.2. Research Status at Home and Abroad***

Regarding experience design theory, the most representative one is Donald Norman’s three-level theory of emotional design. However, this theory is mainly applied in the field of product design, and there is little research on space design.

Regarding the design of experiential commercial space, domestic and foreign research mainly focuses on large shopping malls. Moreover, some research tends to support improving the consumer’s experience by reducing the number of retail stores and increasing the proportion of leisure and dining spaces [7] in shopping malls. Relatively, the research studies of experiential commercial space mainly in the form of retail are in a lacking state.

## ***2.3. Research Purpose and Innovation***

This research aims to improve the present situation where the shopping experience is boring and the care for the elderly is absent in commercial space. At the same time, the elements of “the elderly group”, “experiential commercial space” and “new retail” are integrated to create a commercial space specially serving the elderly group and satisfy their requirements in the way of immersive experience, humanized care and personalized customization. In addition, this research focuses on intelligence and services, which is aimed at upgrading the shopping experience by new technologies and a service process (specifically designed for the elderly).

## **3. Model Research**

### 3.1. A Model of the Elderly Group

#### 3.1.1. The Social Status of the Elderly

When it comes to the elderly, although society has recognized the status of their vulnerability and has adopted a series of legal measures to protect their special rights and interests, the level of social attention and care is still insufficient, which is mainly manifested in the weakening of traditional filial piety. Nowadays, the society tends to treat the elderly disrespectfully while love the young too much. The one-sided concept of support is also a main problem. Young people give material support to their elder but pay little attention to spiritual support. [8] Additionally, some people still hold the wrong concept that "the elderly are a social problem". In design process, the author's team believes that the elderly group should not be treated as a social problem. Instead, we need to give them full respect and care which they totally deserved from the beginning.

#### 3.1.2. Physical and Psychological Characteristics [9]

*Table 1. Physiological and Psychological Characteristics of the Elderly Group.*

Physiological Characteristics	Psychological Characteristics
Joint pain, decreased muscle vitality, and reduced mobility	Anxiety about physical condition
Blurred vision, weak sensitivity of light	Loneliness, social uselessness
Decreased short-term memory ability and weakened sense of direction	

### 3.2. Theoretical Model: Three-level Theory of Emotional Design by Donald Norman [10]

*Table 2. Comparison of application of emotional design in product design and environmental design and related cases.*

	Product design	Environmental design	Environmental design case (domestic and foreign)
<b>Visceral Level</b>	Appearance of products	Five senses brought by architecture and interior space (Seeing, listening, smelling, touching, tasting)	American high-end jewelry brand --Âme flagship store Display jewels in pods with different music, match unique fragrance to stimulate the instinctive sense of sight, hearing and smiling [11]
<b>Behavioral Level</b>	Pleasure and efficiency of product use	Pleasure and practicality of experience	Slowear18 concept store A clothing store where you can drink after 7 p.m. Through the diversity of spatial functions, the pleasure and practicality of the experience are displayed [12]
<b>Reflective Level</b>	Product rationality and intelligence (Self-image, personal satisfaction, memory)	Self-image, personal satisfaction, memory	Shanghai Joy City Making in indoor and outdoor scenes, set up to take pictures punch point to meet nowadays literary, Petty, the pursuit of individuality lifestyle of young people to help them build self-image, forming a special experience memory [13]

## 4. Emotional Experience Creation Strategy Model

### 4.1. Customer Experience Map

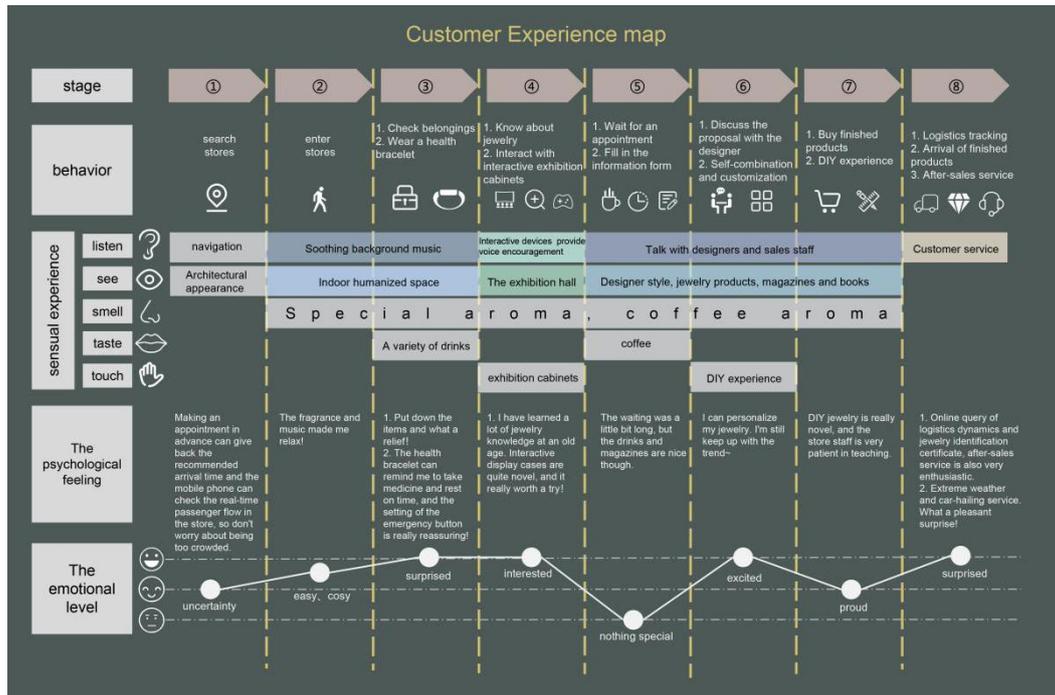


Figure 1. Customer Experience Map.

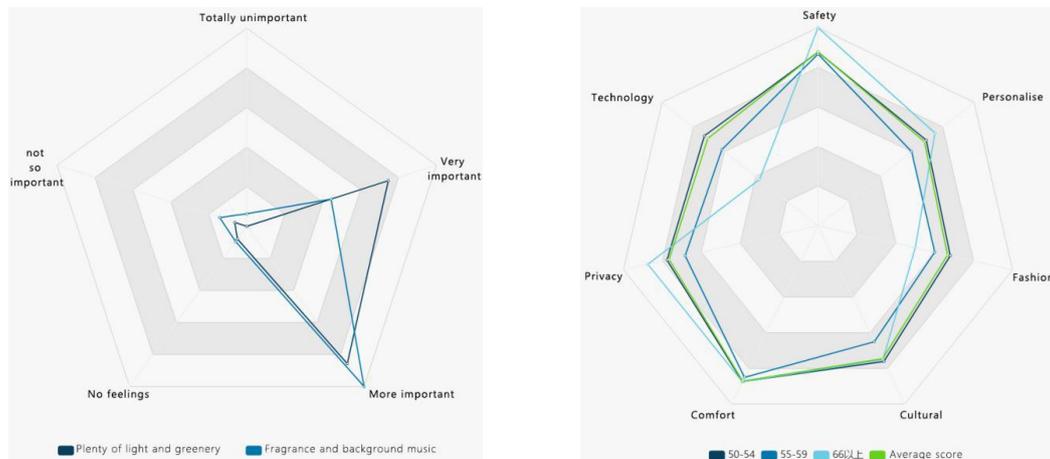


Figure 2. Some statistical results of the user survey questionnaire.

Through the preliminary investigation, the author team concluded that the design focus is the creation of safety and comfort. Therefore, the corresponding design strategy is proposed: at the visceral level, rationally mobilize the five senses to create a sense of space comfort, freshness, and immersion. Moreover, increase the coverage of green plants and flexibly deploy music and fragrance; at the behavior level, focus on enriching the store experiences by displaying product design and line process, production interactive experiences. The former can achieve zero distance interactive with the help of AR, VR, MR, XR, 3D mapping and other multimedia technologies while the latter can be the customers' interactive behavior of the device; At the reflective level, the operation team can regularly invite celebrities to hold offline lectures and salons, holiday parties, or design customized experience packages to

promote the feelings between customers, family and friends, so that the experiencers can be satisfied with themselves and leave beautiful memories.

#### **4.2. Prelude**

The applications of new technologies have brought great convenience to shopping. Customers can search on the Internet for the store information, customer service consultation, store reservations, route planning and other operations.

In order to give customers a pleasant first impression of the space at the visceral level, the building facade and surrounding environment can be decorated with green plants on a large area. Besides, preserving the originality of materials and structures as much as possible can weaken the expression of modeling, which will give people the sense of gentleness and closeness.

#### **4.3. Undertake**

Indoors, the soft lighting and furnishings, brand-specific aromatherapy, soothing background music, free drinks stimulate customers' vision, touch, smell, hearing and taste respectively, creating a pleasant space experience from the five sense dimensions.

Relevant studies have shown that soft colors such as beige, light green and milky white often give people a sense of comfort, warmth, and comfort, which can help increase the willingness of the elderly to communicate. The objects in bright colors, like orange and grass green, can be easily identified by old customers, thus preventing accidents of stumbling and slipping. [14] Based on this, it's wise to use beige, rose pink in a large area, then appropriately mix some dark green and light green to increase the vitality of space.

#### **4.4. Climax**

The climax part includes brand culture, service, product introduction and DIY customized experience. The special feature of this scheme lies in the individualized, humanized and technological design in the space, which is specifically expressed as follows:

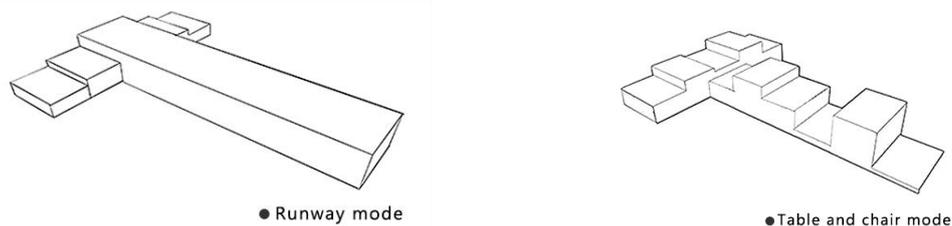
a. Personal belongings storage service and smart health bracelet: storage can reduce the physical burden for the elderly. Smart Health bracelet with registration information, personalized reminder settings, health monitoring and emergency call button can timely remind the elderly to take medicine and do some exercise (to avoid skipping medication and causing damage to spinal vertebrae due to sedentary). In addition, the establishment of emergency service centers, CPR and fracture training to the sales staffs can make adequate preparations in case of an accident. Through the series of measures above to increase the elderly's sense of security in the space, lower the anxiety caused by the decline in physical function, relief the panic about their own health, and increase the concentration of experience indoors, which is convenient for the ultimate “psychological flow” acquisition (Csikzentmihalyi, 1988).

b. Intelligent interactive showcases and contextualized showcases: Breake the boring pattern of traditional jewelry booths where jewels are neatly and fully displayed. Contextualized showcases create a sense of story and enrich the environmental connotation by adding internal theme decorations. The intelligent interactive showcase improves the structure of the booth to generate interactive behavior and enrich the sense of space experience.

When someone is getting older, the speed of learning is slower, the frequency of errors is higher, and thus anxiety and frustration are easy to occur. Learning and memory in failure can lead to a negative experience. [15] Intelligent interactive voice showcase establish the encourage systems to reduce the elderly's frustration. It encourage the customer to adjust the personalized jewelry adjustable height and booth bars for lights in the hue, brightness, etc., according to their preferences, which is useful to overcoming the fear of making mistakes help to gain a sense of accomplishment, and promote pleasant experience of the space.

c. Humanized handrails, non-slip carpets, self-service magnifying glass, multimedia navigation system and other designs: try to provide convenience in the space and show the special care for the elderly. Multimedia projection and ground navigation system can effectively relieve the pressure of the weakening sense of direction. A variety of multimedia equipment shows the process of jewelry mining, design, and processing, which enhances the customer's sense of substitution in the interactive experience, attracts their attention, and creates fresh memory points to enhance spatial memory.

d. Diversification of customized experience: The concept proposed by Csikszentmihalyi believes that "psychological flow" is the optimal experience process, which is the overall sense of the individual being fully engaged in a certain activity [16], contains 9 elements. Inspired by the element of "matching individual skills with task challenges", the author's team divided the service customization process into various difficulty differences. Customers can challenge the difficulty of experience according to their actual situation and enjoy the ultimate experience.



**Figure 3.** Multi-function lifetable platform.

e. The application of new technology runs through the whole: using the in-store application of passenger flow statistics, including infrared passenger flow statistics, video passenger flow statistics, WIFI probe passenger flow statistics, etc., can collect statistics of user information, analyze store operations, and provide powerful information for business decisions. In addition, in the store, you can also accurately recommend products based on customer preferences by analyzing big data to avoid fatigue caused by too many choices, improve efficiency, and express practicality.

f. Diversified leisure space design: catwalk show platform, top terrace, coffee shop allow the elderly to communicate, share, and learn. The height of the platform can be freely adjusted to be a table, chair or runway (Figure 3), and the entire space can hold regular lecture sharing, salons, catwalk shows and other activities. Here the elderly can meet new friends, share their knowledge and experience in their own fields, learn new knowledge, feel happy of being old, and improve their self-image satisfaction.

#### **4.5. Ending**

The previous survey found that the elder people generally have concerns about the quality of new retail online and offline shopping methods. Therefore, in order to increase shopping confidence, customers can check jewelry identification certificates and track product production and logistics information through mobile phones after purchasing products.

According to the “end value experience”, the ending experience plays a vital role in the overall experience memory. Based on this, the ending experience design can create surprises for customers, such as free ride-hailing services in extreme weather and lottery draws when leaving the store. These designs help customers form characteristic experience memory points, promote word-of-mouth marketing, and attract more customer flow.

## 5. Conclusions

With the arrival of the era of experience economy and silver economy, the consumption potential and experience demand of the new generation of elderly people are increasing day by day. However, the existing commercial space design lacks care and temperature for the elderly group. This study is based on Donald Norman’s three-level theory of emotion, combined with emerging science and technology, to create a new retail commercial space, in the pursuit of efficiency and flow, but also pay attention to emotional care, to give the elderly group immersive, personalized and humanized shopping experience.

This study is based on the scheme design proposed by the new retail jewelry store, which may be one-sidedly and limited, but it is still hoped that this study can provide some ideas for the design and research of the commercial space for the elderly, so that the elderly people can still feel good shopping experience and enjoy the elegant and delicate life of the elderly even when they are old.

## Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this article.

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## Appendix A

### Questionnaire on the Emotional Needs of Future Experiential Commercial Retail Space

Hello, this is a questionnaire about investigating the emotional design needs of experiential commercial retail space in the future. The target customer group is the new generation of elderly people. Your views can help us to study the design of space environment in line with customers’ aesthetic and emotional needs.

This questionnaire is anonymous, all the data are only used for statistical analysis and research, please rest assured to fill in ♥

Your opinions will directly affect the conclusion and quality of this study, please fill in carefully according to your own real situation and feelings, thank you for your participation and valuable comments!

What is your current or previous occupation? [Multiple choice] \*

- Teacher
- Doctor
- Civilian staff
- Cadres of government organs/public institutions
- Senior management of the enterprise
- Actor
- Worker / Waiter
- Other \_\_\_\_\_

What's your age? [single choice] \*

- 49 years old and below
- 50 ~ 54
- 55 ~ 59
- 60 ~ 65
- 66 years old and above

What is your monthly income range [single choice] \*

- 5000 yuan
- 5000 ~ 10000 yuan
- More than 10000 yuan

Does an environment with plenty of light and greenery make you feel good and to what extent? [Matrix single Choice Choice] \*

	<b>Not at all important</b>	<b>Less important</b>	<b>No feelings</b>	<b>Comparatively important</b>	<b>Very important</b>
feeling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Indoor can adjust sweet atmosphere and background music according to the change of weather, time, whether can bring pleasant experience for you, how is the action degree that its place has? [Matrix Single Choice Choice]\*

	<b>Not at all important</b>	<b>Less important</b>	<b>No feelings</b>	<b>Comparatively important</b>	<b>Very important</b>
feeling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Does a safe environment bring you pleasure, and to what extent? [Matrix Single Choice Choice] \*

	<b>Not at all important</b>	<b>Less important</b>	<b>No feelings</b>	<b>Comparatively important</b>	<b>Very important</b>
feeling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Does a technological environment bring you pleasure, and to what extent? [Matrix Single Choice Choice] \*

	<b>Not at all important</b>	<b>Less important</b>	<b>No feelings</b>	<b>Comparatively important</b>	<b>Very important</b>
feeling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Does a private environment bring pleasure to you and to what extent? [Matrix Single Choice Choice]\*

	<b>Not at all important</b>	<b>Less important</b>	<b>No feelings</b>	<b>Comparatively important</b>	<b>Very important</b>
feeling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Does a comfortable environment bring you pleasure? To what extent does it play a role? [Matrix Single Choice Choice]\*

	<b>Not at all important</b>	<b>Less important</b>	<b>No feelings</b>	<b>Comparatively important</b>	<b>Very important</b>
feeling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Does a cultural environment bring you pleasure? To what extent does it do so? [Matrix Single Choice Choice] \*

	<b>Not at all important</b>	<b>Less important</b>	<b>No feelings</b>	<b>Comparatively important</b>	<b>Very important</b>
feeling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Does a stylish environment bring you pleasure, and to what extent? [Matrix Single Choice Choice] \*

	<b>Not at all important</b>	<b>Less important</b>	<b>No feelings</b>	<b>Comparatively important</b>	<b>Very important</b>
feeling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Does a personalized environment bring you pleasure, and to what extent? [Matrix Single Choice Choice] \*

	<b>Not at all important</b>	<b>Less important</b>	<b>No feelings</b>	<b>Comparatively important</b>	<b>Very important</b>
feeling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



What does the design sample drawing I bring to you? How much do you feel? [Matrix multiple choice] \*

	none	less	general	more	strong
Novel and interesting	<input type="radio"/>				
Safe and comfortable	<input type="radio"/>				
Fashionable and individual	<input type="radio"/>				



What does the design sample drawing II bring to you? How much do you feel?  
 [Matrix multiple choice] \*

	none	less	general	more	strong
Novel and interesting	<input type="radio"/>				
Safe and comfortable	<input type="radio"/>				
Fashionable and individual	<input type="radio"/>				



What does the design sample drawing III bring to you? How much do you feel?  
 [Matrix multiple choice] \*

	none	less	general	more	strong
Novel and interesting	<input type="radio"/>				
Safe and comfortable	<input type="radio"/>				
Fashionable and individual	<input type="radio"/>				



What does the design sample drawing IV bring to you? How much do you feel?  
[Matrix multiple choice] \*

	none	less	general	more	strong
Novel and interesting	<input type="radio"/>				
Safe and comfortable	<input type="radio"/>				
Fashionable and individual	<input type="radio"/>				

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