

# Research on Pet Business Strategy and Service Design in Internet Economy

## Taking an APP Platform Development Project as an Example

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### ABSTRACT

This paper explores the business strategies of the pet industry under the Internet economy from the perspective of service design, so as to improve the service quality, customer satisfaction, user experience and competitiveness of the pet industry. Based on the characteristics of the Internet economy era, this paper elaborates its concept, meaning and value, and discusses the development status of online pet transaction and the development trend of the industry. Combining with the design of a pet APP, an online and offline mutual complementary network platform is established. By constructing a map of target users, discovering key touch points in the service process, and creating usage "scenarios", a relatively complete service chain can be formed, and pets can be integrated into the value form of personal life. Also, this paper explores pet business models and service strategies in today's Internet economy from a design perspective.

**Keywords:** *Internet economy, Pet transaction, Service design, Scene experience.*

### 1. INTRODUCTION

The network economy was originally called the "network industry economy", and it was composed of industries closely related to the Internet, including telecommunications, electricity, and the Internet. Five principles of complementarity, compatibility and standards, consumer externalities, switching costs and lock-in, and significant-scale economies of production are the five important characteristics of the network economy. With the increasing development of the Internet, people begin to understand the Internet from the perspective of the Internet. From this perspective, the network economy is essentially the Internet economy. Many scholars in China and foreign

countries have similar views. For example, John Flower, the proposer of the "Internet Economy", said that "The Internet economy is divided into four levels: network infrastructure, network application infrastructure, network intermediary and online Business." This view was put forward in "Measuring the Internet Economy" in 1999 by the University of Texas. Nowadays, the Internet economy has become the mainstream trend of the development of the times, with the economic situation and the network as the main form in the form, and the combination of the virtual economy and the traditional economy in the model. [1]

The Internet economy optimizes the allocation of resources, improves the utilization rate, separates products and commerce, avoids the direct connection between company interests and products, and avoids overcapacity. At the same time, the high-profit model can have financial resources to increase the research and development of high-tech such as biology, nanometer, and autonomous driving. The advantages of the Internet enable Internet companies to better serve the development of technology than traditional companies. The Internet revolution is the revolution

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\*Fund: 2019 National University Student Innovation and Entrepreneurship Project (National) (S201910636059)

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of computers. The Internet is transforming the means of production, and advanced science and technology are the most important part of the means of production. Today's Internet companies have made great contributions to the development of science and technology, which has fundamentally updated the means of production.

## 2. TRENDS IN PET CONSUMPTION CHARACTERISTICS

In "2019 Ecological Big Data Report of Pet Consumption" [2] (hereinafter referred to as the "Report") released by the China Business Data Center in 2019, it can be seen that in the past year, more than 40% of the pet consumption market on the Internet was carried out by the people who were born after 1990. From 2017 to 2019, the amount of pet transactions by people who were born after 1995 on the Internet increased exponentially (see "Figure 1" below for details)

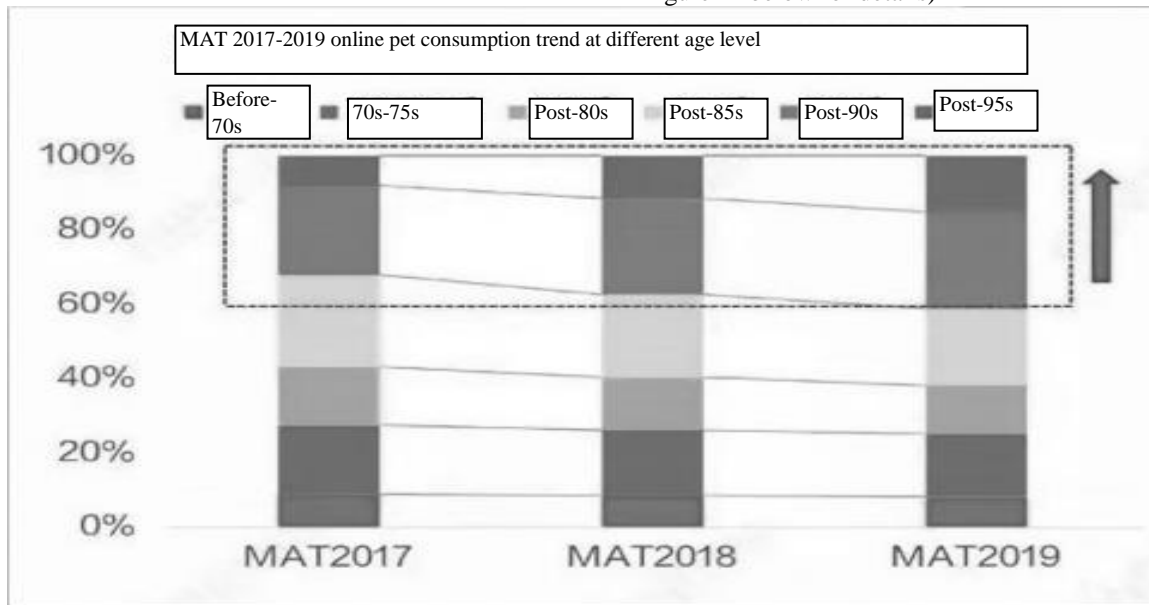


Figure 1 MAT2017-2019 online pet consumption trends of different age groups.

a Source: "2019 Ecological Big Data Report of Pet Consumption".

- Trend 1: Food nutrition and safety

With the improvement of the consumption level of modern young people, more attention is paid to the pet food nutrition and safety. It can be seen from the "Report" that the sales of pet nutrition products have increased by more than 20% for two consecutive years, and the demand for special pet foods such as "prescription food" for neutered pets has greatly increased, with the increase of 258% in the market size in the past year.

- Trend Two: Demand for smart devices

With the accelerated pace of life, taking care of pets with smart devices have become a trend, including monitoring, smart wear, smart feeding, etc., which greatly reduces the burden of caring for pets. And the proportion of consumption has nearly doubled in the past year. [3]

- Trend 3: Online platform consultation

Pet health is the main concern of owners. The health consumption of pets extends from offline pet hospitals to online professional platform consultations.

- Trend 4: Being treated as family partners

Pets are the sustenance of partners at spirit level. According to the "Report", the amount of cat gift box consumption in 2019 was 27 times that of 2017. In addition, more young consumers are willing to purchase insurance, photography, cemetery and other consumer items for pets.

### 3. CORE IDEAS AND FRAMEWORK OF SERVICE DESIGN

#### 3.1 Project Introduction

Service design, as a design method to develop services, can make the entity and non-entity elements that make up the service comprehensive planning and development, enhance the user experience and create service value. [4]

The project aims to provide a guide to urban pet life consumption. It is mainly dedicated to providing consumers with local pet feeding guidance, pet consumption and other daily pet life services, and to providing objective and accurate localized consumption information for potential consumers. Also, it is a comprehensive platform and information guide for consumers to freely post-consumer comments and share consumer information.

This project is mainly dominated by self-operated Apps and supplemented by third-party stores. Through big data analysis, it provides users with high-quality consumer services and good service experience. The presence of third parties is to enrich the diversity of services. Offline directly-operated stores visually and comprehensively display related pet supplies brands and products, and will provide a more comprehensive and guaranteed one-stop service. Verified franchise stores will provide services with their own characteristics after multiple inspections such as quality, safety and health, and synchronize with the Apps[5], making it easy for users to search and use.

For users, consumer decisions are made through various evaluations and experiences in the software, including business information, number of reviews, personalized screening, etc., and a one-stop solution will be provided to meet users' various needs. For merchants, the introduction of discounts, membership cards and other services will attract more customers. At the same time, it gains store exposure through the Apps, and uses high-quality reviews to achieve promotional effects to attract users. First is to bring additional traffic, increase transaction volume, and create profits. The second is to use big data analysis and reviews (or benefit), and competitive rankings to increase visibility and reputation. The platform aggregates the traffic of both users and merchants, provides users with accurate push services, charges merchants transaction fees, and provides value-added services. Through the precipitation of consumer behavior, users can recognize people of the same taste or hobby on the platform and strengthen the accuracy of recommendations.

#### 3.2 User Analysis

The target users focus on life experience and are willing to share their purchase and feeding experience online, and at the same time hope that their comments can be recognized by everyone. These users can also be users who are accustomed to offline consumption. They use the App to screen out merchants who are interested in it, focusing on the superiority and self-satisfaction brought by the added value of the product. The majority of users are 18-55 years old, including students, white-collar workers, housewives and elderly people who can use electronic devices. ("Table 1")

Table 1. Classification of consumer groups (self-painted)

Classification	Features
Senior User	Users who are more prominent in the field of evaluation and sharing within the platform are more active. The consumption frequency is high, and feeding experience, good things, good stores, etc. are often shared.
Mass Users	To understand the business before consumption, check whether the business has discounts and group buying activities, be not familiar with the membership system and new features. The consumption power and activity are relatively average. After purchasing the service, a simple evaluation will be made, the degree of information contribution is low, and new products such as membership cards will be used after they are registered.
Primary Users	Low frequency of use; primary use when needed, including viewing and searching for information.

Merchant groups refer to the operators of commodities, including pure e-commerce, physical stores, and merchants who have both online and physical stores.

#### 3.3 Usage Scenario Analysis ("Figure 2")

- Before offline consumption

They would find businesses nearby when there is consumer demand outside:

- 1) Check the introduction, features, and comments;
- 2) Buy directly or make an appointment for consumption;

- 3) Receive coupons and prepare to use them at that time;
- 4) Carry out pet grooming, pet boarding, etc., directly complete the process from checking and booking to consumption online;

- 5) Choose a time before consumption to complete the reservation;
- 6) Check the business address, the route to the business and other information.

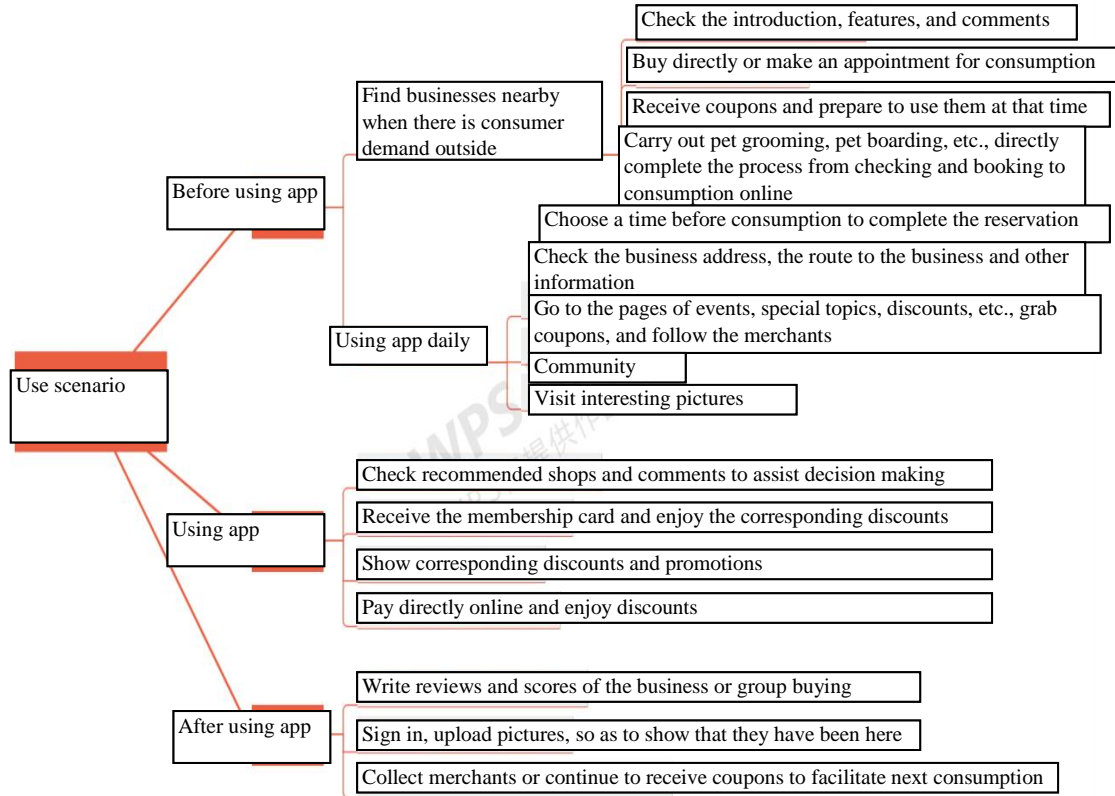


Figure 2 Use scenario analysis (self-drawn).

When people use the app on weekdays, they would do the followings:

- 1) Go to the pages of events, special topics, discounts, etc., grab coupons, and follow the merchants;
- 2) Community;
- 3) Visit interesting pictures.
  - When people carry out the consumption, they would do the follow aspects:
    - 1) Check recommended shops and comments to assist decision making;
    - 2) Receive the membership card and enjoy the corresponding discounts;
    - 3) Show corresponding discounts and promotions;
    - 4) Pay directly online and enjoy discounts.

- After consumption, people will do the follow items:
  - 1) Write reviews and scores of the business or group buying;
  - 2) Sign in, upload pictures, so as to show that they have been here;
  - 3) Collect merchants or continue to receive coupons to facilitate next consumption.

### 3.4 Project Framework and Contact Point Analysis

This project is mainly divided into four major modules, as shown in the "Figure 3":



Figure 3 Overall frame diagram (self-drawn).

The frame is shown in "Figure 4" below:

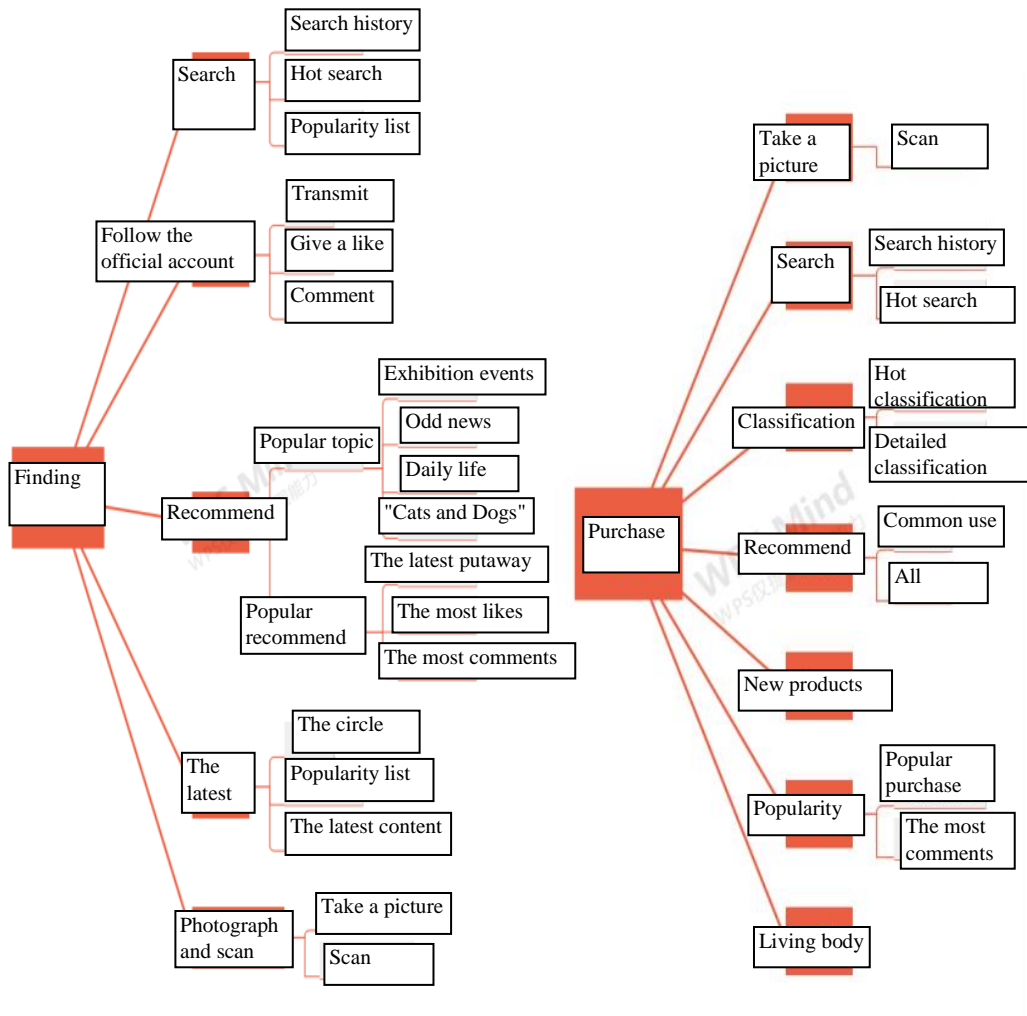


Figure 4 "Finding" module, "Purchase" module (self-painted).

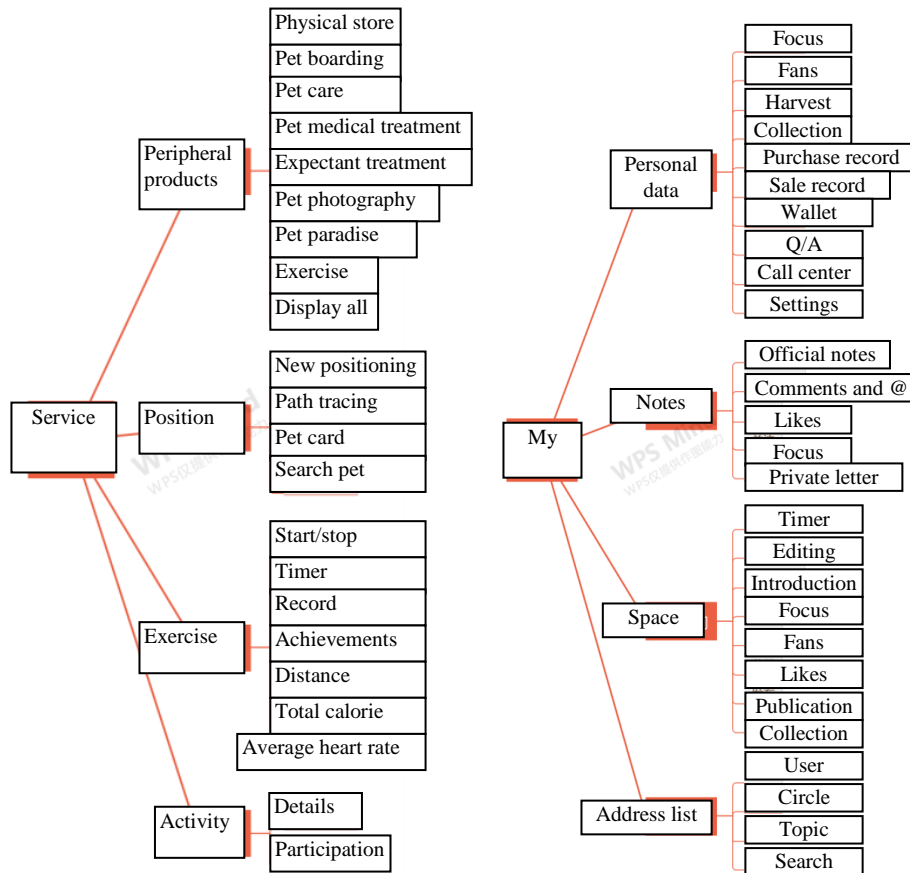


Figure 5 "Service" module, "My" module (self-drawn).

#### 4. SERVICE DESIGN CONTENT MODULE AND SCENE DESIGN

The entire App interface uses gray as the main color, and the fresh and bright interface enhances ugc content. At the same time, the card format is adopted as the display method, the H5 page is used for jumping, and the HybridApp mode is adopted, which saves the cost of iterative development and the size of the installation package, and also reduces the performance requirements of the user's mobile phone. The whole is divided into four content modules: "service", "Finding", "purchase" and "my", with a clear structure. ("Figure 5" and "Figure 6")



Figure 6 Overall interface design (self-drawn).

##### 4.1 "Service" Module

The "service" interface mainly provides the entrance to the service, which is divided into two types. One is to find specific businesses and service

categories through the search bar for navigation (the search bar can help users find businesses that already have a clear goal); Second, the classification navigation bar helps users find all businesses in a certain category. Different forms of portals almost meet the needs of three different types of users: users with clear goals, users who have determined one of the categories but have unclear goals, and users who have no goals to browse at will.

Different types of merchant entrances and preferential activities basically meet the needs of users in the process of using the APP, and give users a quick choice of entrance on the homepage, giving full play to the guiding role of the homepage.

The page provides four major sections of service functions, namely, the surrounding, location, exercise and activities.

Peripheral page has options such as physical stores, pet boarding, pet grooming, pet medical care, childcare, pet photography, pet playground, pet training, etc. At the same time, the software can also locate the surrounding shops, categories, etc. and give reasonable ordering of recommended forms, etc. according to the user's real-time positioning. The business information shows region, rating, per capita consumption, preferential activities, etc., which can help users make a preliminary selection of the business.

The "service-surroundings" functional interface uses a relatively concise design style and provides users with more detailed consumption information. The distance, rating and average price of the business are all listed. This can give users a preliminary choice, effectively help users screen businesses, and reduce the pressure of users' decision-making. ("Figure 7")

The "service-location" function requires the user to purchase the corresponding smart wear device of pet and connect the mobile device with Bluetooth. When this interface is opened, the user's location and the pet's location will be displayed on the map. When the pet is lost, it will be within a certain range. This function can help users find lost pets more efficiently, and can also plan the path to find the lost pet. After wearing the pet smart device, people need to enter the pet's specific home address and owner information. If the pet is found after being lost, people can contact the owner by scanning the QR code on the pet smart device. Also, people can also use the emergency pet search

function, as long as this function is turned on, the pet smart device worn on the pet will make a sound to attract the attention of passers-by, thereby providing the possibility for enthusiastic passers-by to contact the owner of the pet. ("Figure 8")

When turning on the "exercise" function in the service while walking the dog, people can carry out the corresponding physical training by the way, so that people can walk the dog and make the exercise. When a certain amount of exercise is reached, the pet App will also give away some coupons to show encouragement, so that more users can participate. ("Figure 9")

The "service-activity" module will display the pet-related activities that will be held in the user's attachments in the future, along with detailed activity information to facilitate users' access and participation. ("Figure 10")



Figure 7 "Service-Surroundings" (self-drawn).



Figure 8 "Service-Location" (self-drawn)

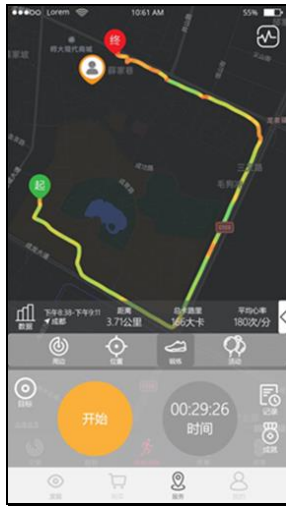


Figure 9 "Service-Exercise" (self-drawn).



Figure 10 "Service-Activity" (self-drawn).

#### 4.2 "Purchase" Module

The main color of the "purchase" page is orange and yellow. The purpose of bright colors is to stimulate the user's desire to buy. The navigation classification is relatively clear, and the scene-based purchase recommendation is more in line with the user's usage habits. ("Figure 11")

The category navigation bar classifies all pet supplies strictly and meticulously, making it easier for users to find supplies suitable for their pets. The search bar provides historical searches and popular searches, the purpose of which is to allow users to search quickly. Of course, people can also manually enter the search. ("Figure 12")

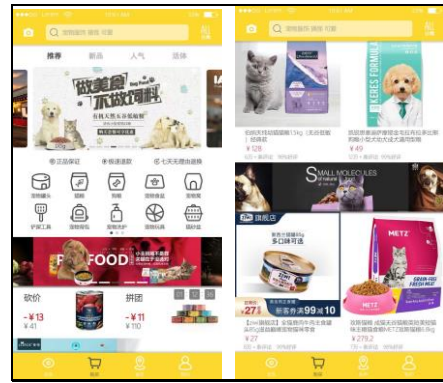


Figure 11 "Purchase" scene (self-painted).

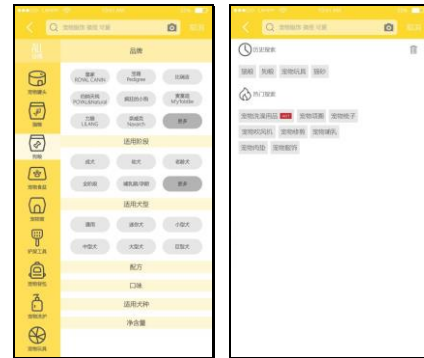


Figure 12 "Type and Search" scene (self-painted).

#### 4.3 "Finding" Module

"Finding" is an interface for user communication and sharing, mainly providing PGC and UGC information to increase user interaction and increase user stickiness. In this page, users can get more personalized and customized information. After reading the number of times, the big data system will analyze the user's preferences and push the content that the user likes. ("Figure 13")

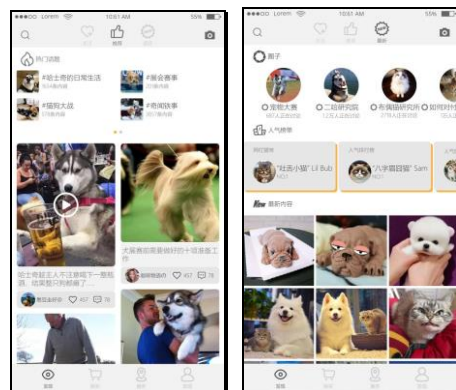


Figure 13 "Finding" scene (self-painted).



#### 4.4 "My" Module ("Figure 14")

##### 4.4.1 "My Wallet"

The pet App wallet is more like a card package, which contains various coupons, membership cards and other miscellaneous coupons, but it does not have the bank card binding function of a normal wallet. The pet App is done by selecting other payment tools when the user pays. Pet App is an auxiliary tool for offline consumption. There are a variety of payment methods, which can realize the payment function in the corresponding payment environment.

##### 4.4.2 Membership Card

Users of the pet App can activate the electronic membership card function according to their needs. Electronic membership cards allow users to enjoy more discounts. Of course, many membership cards can be received for free. When consuming, users only need to scan the QR code on the merchant's membership card to complete the discounted consumption. In addition, there may be some information services. On the merchant side, the merchant can identify the user after the electronic membership card is consumed, and perform further member service methods.

Electronic members can pay directly online. On the merchant side, the electronic membership card of pet App provides an electronic membership card solution, allowing the membership system to be connected with each merchant's own membership management system.

##### 4.4.3 Coupons

It is divided into in-store discounts and promotions and online purchase discounts. In-store discounts and promotions are traditional forms of coupons, initiated by merchants, and users receive and use them. Online payment is a new form of promotion that combines in-store discounts and online payments, and offers preferential activities through platform payments.

The form of paying discounts can be seen as the evolution of traditional coupons and the upgrade of the group buying model, turning the pre-consumption appointment of group buying into a combination of consumption and payment. For users, in addition to obtaining discounts, the process of buying group coupons before consumption is also eliminated. In addition, paying

discounts is also a typical scenario of mobile payment, which promotes the popularization of mobile payment.

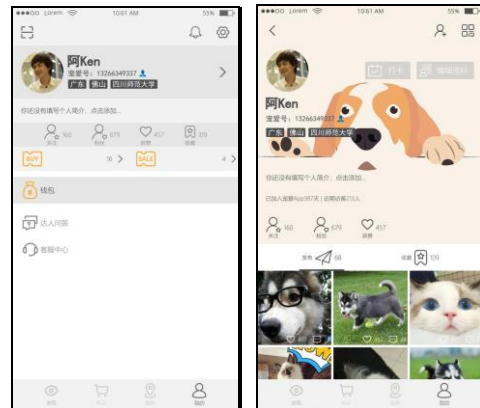


Figure 14 "My" scene (self-painted).

The message center and friend list are an important part of the pet app. The message center clearly displays various services and reservation information to users, as well as dynamic replies from friends, etc. When a user wants to find a friend he added to chat, he can click on the friend list to start chatting and communicating with the friend, providing a convenient communication platform. ("Figure 15")

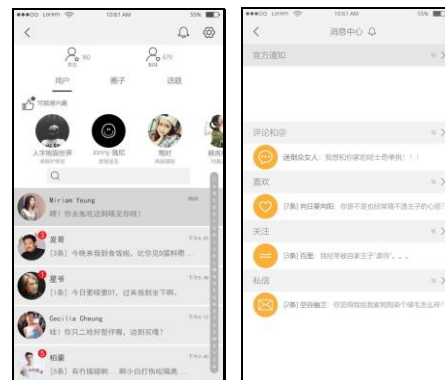


Figure 15 "Friends List and Message Center" (self-painted).

## 5. CONCLUSION

Service categories, customer satisfaction, and user experience have become important support for business competitiveness in the Internet economy. Consumers need more than just equipment or physical goods to facilitate their lives, improve the pace and quality of life, they need professional information, resources or reliable decisions[6], and service design thinking fits the current development direction and trend of the pet industry. With the creation of rich "scenarios" and the integration of

pets into personal life themes, it would bring more possibilities for its business innovation. As Donald A Norman and Roberto Verganti say in "Incremental and Radi-cal Innovation: Design Research VS Technology and Meaning Change": meaning-driven innovation begins with an understanding of the subtle and implicit dynamics of social and cultural patterns and leads to entirely new meanings and languages, often implying changes in socio-cultural systems.[7]

## **AUTHORS' CONTRIBUTIONS**

Fengfeng Jian is responsible for experimental design; analysed data. Jie Tan wrote the manuscript; contributed to revising and editing. Yuntian Bi contributed to the analysis of data.

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