



# Economic Development and Marketing Strategies in a Blue Ocean Industry: Example of The Chinese Pet Market

Siyu Yang

Aquinas International Academy, Beijing, 100080, China  
yangsiyu2025@i.pkuschool.edu.cn

**Abstract.** With the increasing number of people who own pets in recent years, China's pet market size has exhibited a growing trend, forming a blue ocean industry with a bright prospect. Based on market data from 2015-2023, this study uses the AutoRegressive Integrated Moving Average (ARIMA) time series model to analyze historical market data from 2015 to 2023 and generate forecasts for the future development of China's pet industry. The results show that although the growth rate of the market will slow down slightly in the next few years, the overall scale will still expand steadily. To complement the statistical market forecast, this study further proposes strategic directions in marketing, particularly emphasizing the role of social media platforms such as Xiaohongshu, Douyin, and Bilibili in shaping consumer behavior and purchasing decisions. These platforms have become critical marketing tools in the digital era, especially for younger people who dominate pet ownership trends. On this basis, this study proposes a marketing strategy to promote the development of the pet industry in combination with social media.

**Keywords:** Pet economy, ARIMA model, Blue ocean strategy, Market forecasting, Social media marketing.

## 1. Introduction

### 1.1. Background of China's Pet Industry

The pet industry is growing rapidly globally, and the China's market performing prominently as one of the fastest-growing markets in the world [1]. With accelerated urbanization, rising income levels and changing lifestyles, the pet-owning population has a growing demand for related products and services [2]. The rapid increase can reflect in changed lifestyle, new fashion, increased emotional companionship needs, and consumer's consume patter. With the change of century and the rise of people's income level, more and more people, especially young people, are attracted by cute animals, they are not only willing to spend money on the basic survival costs for their pets, but also willing to increase consumption for their pets to achieve further happiness, such as paying attention to the pet's dietary health including food and snacks, various toys to bring mental health and regular medical checkups and etc. Having future insights to the

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current market scale and future development forecasts can be a strategic benefit to both consumers and businesses.

### **1.2. Research Methodology: ARIMA Model Overview**

This study uses ARIMA model to forecast future trends in China's pet market scale. The ARIMA model is a statistical model used for forecasting time series data [3, 4]. First, AutoRegressive means that this model uses data from previous time period to forecast current and future data. Second, Integrated means that use differencing to make the data more stationary, it transforms the data by calculating the change data between each time period, after that the data will reflect its inherent properties of growth or decline, rather than changes in the overall data. Third, Moving Average is used to avoid mistakes or errors in previous individual data from predictions for the future [5, 6]. The purpose of this study is to generate accurate market forecasts. The significance of this study is to provide data support in the fiercely competitive market, which would facilitate companies to make future decisions.

### **1.3. Research Scope and Marketing Strategy**

This study uses secondary data from 2015 to 2023 and applies ARIMA model for forecasting [7, 8]. Also, through the analysis of literature review and market data are used to investigate the most effective marketing strategies of the current time. Because social media marketing has revolutionized the way people evaluate products, the criteria they use to choose them and the sources of information they use to buy them [9, 10]. Online platforms such as Xiaohongshu, Douyin, and Bilibili are playing a crucial role in shaping consumer's standard and guiding purchase behavior. So, this paper examines the effectiveness of new media marketing in promoting consumption by reviewing the latest literature. Thus, this paper combines predictive modeling with marketing strategies to provide actionable insights for stakeholders in the pet industry.

## **2. Method**

This study uses mixed methods to explore and forecast the development of China's pet market economy. The methods consist of two main parts: using ARIMA to forecast the future data and analysis marketing strategy based on literature and the result of forecasting [11]. The data source for this study is iResearch. China Pet Industry Insight Report 2021 [7]. Published 2021-09-01. Accessed 2025-07-22. iResearch. China Pet Industry Insight Report 2024 [8]. The data covers the total annual size of China's pet market in the unit of RMB billion from 2015 to 2023.

### **2.1. Model development**

The ARIMA model process comes from IBM SPSS Statistics 31.0.0.0 and included following steps:

#### Step 1: Data input

Two variables' data were inputted into SPSS, year (2015–2023), and annual market size of China's pet industry in billions of RMB (2015–2023). Defined year as the time index and the market size the target variable.

**Step 2: Initial Visualization**

A time series plot was generated to examine trends, fluctuations, and overall patterns.

**Step 3: Stationarity Check**

The Augmented Dickey-Fuller (ADF) test was applied to assess whether the series was stationary. Non-stationarity was detected.

**Step 4: Differencing**

First-order differencing ( $d=1$ ) was applied to remove the upward trend and stabilize the series.

**Step 5: Identification of AR and MA Terms**

The Autocorrelation Function (ACF) and Partial Autocorrelation Function (PACF) plots were used to identify values for the autoregressive  $\phi$  and moving average ( $q$ ) parameters.

**Step 6: Models choose**

After differencing based on the plot of ACF and PACF, the model ARIMA (1,1,1) has been chosen.

**Step 7: Forecasting**

Let the model forecast the data for the period 2024–2026.

**Step 8: Plotting the time series forecast graph**

Using a time series line plot with both observed data (2015–2023) and forecasted data (2024–2027). The red line represents observed data, and the blue line represents forecasted data.

**Step 9: Calculating annual growth rates**

Using the data observed (2015–2023) and the data forecasted (2024–2027), the annual growth rate is calculated by the following formula,  $V_t$  is the market size in year  $t$ ,  $V_{(t-1)}$  is the market size in previous year ( $t-1$ ), which means the last year.

$$Growth\ Rate_t = \left( \frac{V_t - V_{t-1}}{V_{t-1}} \right) \times 100\% \quad (1)$$

**Step 10: Plotting annual growth rate graph**

Using a time series line plot of annual growth rate (2016–2027).

**2.2. Marketing Strategy Analysis**

**Research Focus and Platforms Considered.** In order to achieve a practical social media marketing strategy, this study focused on literature review on combining pet market and digital media. This study considered three main social platforms in China—Xiaohongshu, Douyin and Bilibili, tried to figure out their influence among shaping pet market's consumer's behavior.

**Emotional Impact and Influencer Power.** The contents form in text, pictures and videos from social media always bring users emotional values, which can make users trust more in products, in turn increase their willingness to purchase products [10, 12, 13]. In fact, on social media platforms, influencers have extremely strong power that can make users believe and trust them, and thus users will be more likely to buy the products that the influencers make advertisement [14].

**Platform-Specific Observations For instance:** XiaoHongShu became one of the main platforms that pet consumers obtain information. 53% of primary pet market consumers use XiaoHongShu to acquire pet-related knowledge, 52% of them will be attracted by new products. 60% of them will make actual purchases of products, and even 51% of them will share their experience of using the product and pet stories which are user-generated content [15].

Douyin, as a well-known short video platform, its most outstanding property is bringing users product introductions in video form which can let users understand all aspects of the product, and it can also let users receive the result of using the product in real daily life situations.

Bilibili, one of the most popular video platforms especially for teenagers, offers long videos and communities that users can engage in to share their opinions [16]. It brings a fashion that users want to get a product. In this process the social media platform has an indispensable role.

**Summary of Effective Strategies.** Therefore, there are two main marketing strategies that have been shown effective, practical and useful: using pet influencers to make advertisements and encouraging consumers to share their experiences and make user-generated content.

### 3. Results and Discussion

#### 3.1. Historical Market Performance (2015–2023)

Based on observed data from 2015 to 2023, the Chinese pet market has shown a rapid growth trend. The market size expanded from 725 billion RMB in 2015 to 3264 billion RMB in 2023. The highest annual growth occurred in 2016 (47.86%) and 2017 (44.12%), showing the market has been crazily expanded. However, after 2018, the growth rate began to fluctuate, with a significant drop to 3.10% in 2020. The recovery in 2021 (20.98%) and a stable increase in 2022 (12.29%) and 2023 (6.35%) suggest that the market is entering a more mature situation.

#### 3.2. Forecasted Trends (2024–2027)

The results from ARIMA show that the market size will still increase rapidly but at a gradually slower rate [12]. It means that the market is maturing, and the growth rate is going to be stable. It also means that having a marketing strategy is indispensable for business to get better situation in the current market. Using the ARIMA (1,1,1) model, future market sizes were forecasted as follows:

2024: 3705 billion RMB (+13.52% growth)

2025: 3953 billion RMB (+6.69% growth)

2026: 4313 billion RMB (+9.11% growth)

2027: 4608 billion RMB (+6.84% growth).

These results reflect a more stable trend of development, where dramatic year-on-year fluctuations are less likely. Although expansion remains positive, the data shows that the period of explosive growth has already passed.

### 3.3. Strategic Shifts in a Maturing Pet Market

The data shows that the China's pet market is a blue ocean industry, but can no longer expand largely, it is becoming a more competitive and mature market. Companies can no longer just depend on expanding market scale. Instead, they need to develop efficient strategies to differentiate themselves. They need to attract loyal consumers and maximize value from each consumer.

### 3.4. Future Recommendations

In the coming years, companies should not only rely on single social media platforms but instead build a multiple platform content strategy. They can use several platforms for different purposes, in order to attract different kinds of target consumers. For example, they can use XiaoHongSShu to shape brand image and concept, Douyin for making product promotion and user reviews, and Bilibili to build long-term loyal fans by using long-form and stylistically consistent video series. As competition continues to increase, companies should also pay attention to the new needs of young consumers, such as healthy lifestyles for pets. This means that companies can develop new directions like high-end pet food, health management services, and smart pet devices [17]. These strategies can help companies to create product innovation and meet the growing demand for upgraded consumption.

## 4. Conclusion

This study used the ARIMA model to forecast the development of China's pet market using annual data from 2015 to 2023. The results show that although the overall market is expected to continue expanding steadily, the growth rate is gradually slowing down. This study also focused on the impact of social media marketing on consumer behavior. Based on current trends, two main strategies were proposed: using pet influencers to promote products and encouraging user-generated content to build brand trust. These findings provide useful guidance for companies to develop future strategies in a more competitive and mature market.

This study has several limitations. First, the data used is based on publicly available industry reports, which may not include differentiated sectors such as pet insurance or smart devices. Second, although ARIMA is suitable for identifying time-based trends, it cannot capture sudden events like policy changes or economic shocks. Third, the analysis of social media marketing strategies relies on secondary literature and lacks first-hand data such as user surveys or platform analytics.

Future study can be improved in explore of social media effectiveness more deeply by analyzing user engagement contexts such as click rates, likes, and follower growth. This would help identify which types of advertising content or styles are most accepted and preferred by consumers on platforms. In addition, combining ARIMA with machine learning methods such as LSTM could enhance the model's ability to respond to dynamic market changes. Furthermore, future studies could include surveys or interviews to better understand how users make decisions on social media platforms, providing deeper insight into the psychological behavioral factors of consumers.

## References

1. Routh, S.: The rise of the global pet economy. World Economic Forum, <https://www.weforum.org/agenda/2020/08/rise-of-the-global-pet-economy>, last accessed 2025/07/22 (2020)
2. Zhang, Y., Zhao, L.: Urbanization and Pet Humanization in China. *China Business Review* **45(3)**, 112–117 (2021)
3. Hyndman, R.J., Athanasopoulos, G.: *Forecasting: Principles and Practice*. pp. 32–71. OTexts, Melbourne (2018)
4. Siami-Namini, S., Siami Namin, A.: Forecasting Economic and Financial Time Series: ARIMA vs. LSTM. arXiv, <https://arxiv.org/abs/1803.06386>, last accessed 2025/07/22 (2018)
5. Chang, S., Yue, X.: Driving Mechanisms and Forecasting of China's Pet Population: An ARIMA-RF-HW Hybrid Approach. arXiv, <https://arxiv.org/abs/2505.11269>, last accessed 2025/07/22 (2025)
6. Box, G.E.P., Jenkins, G.M., Reinsel, G.C.: *Time Series Analysis: Forecasting and Control*. 5th edn. pp. 87–124. Wiley, Hoboken (2015)
7. iResearch Inc.: White Paper on Pet Consumption Trends in China 2021. iResearch, Beijing, <https://www.iresearch.com.cn/Detail/report?id=4651&isfree=0>, last accessed 2025/07/22 (2021)
8. iResearch Inc.: China Pet Industry Insight Report 2024. iResearch, Beijing, <https://www.iresearch.com.cn/Detail/report?id=4651&isfree=0>, last accessed 2025/07/22 (2024)
9. Wang, S.: The Impact of Social Media on Young Chinese Consumers' Purchasing Decisions on Pet Products. *Advances in Economics, Management and Political Sciences* **140**, 91–97 (2024)
10. Li, M.: The Effects of Chinese Social Media on Pet Purchase Decisions. *Frontiers in Business, Economics and Management* **13(2)**, 64–71 (2024)
11. Yao, F., He, Y., Zhang, J.: Multiscale Integrated Forecasting of China's Pet Industry. In: ICJE 2025 Conference Proceedings, pp. 45–55. Hangzhou (2025)
12. Doshi, R., Zhang, T., Li, Y.: Modeling Influencer Marketing Campaigns in Social Networks. arXiv, <https://arxiv.org/abs/2106.01750>, last accessed 2025/07/22 (2021)
13. Spencer, K.: Pet Influencers on Social Media: Effects on Consumer Behavior. *Journal of Retailing and Consumer Services* **54**, 102029 (2020)
14. Wu, W.: Research on the Chinese Pet Market Based on Multivariate Prediction Model. *Smart Development in Public Information Technology (SDPIT)* **131**, 158–166 (2025)
15. Octoplus Media: 2024 Pet Industry Comprehensive Analysis: Xiaohongshu report. Octoplus Media, <https://www.octoplusmedia.com/report-sharing-2024-pet-industry-comprehensive-analysis-trends-and-opportunities-in-china-market>, last accessed 2025/07/22 (2024)
16. Spencer, P., Liu, Z.: Pet Influencers on Instagram: Effects on Purchase Intentions. *Tourism Management* **95**, 104392 (2024)
17. Wang, Y.: Analysis and Strategy Research on the Development Trend of Pet Industry Based on Multi Model Prediction. In: 2025 International Conference on Digital Analysis and Processing, Intelligent Computation (DAPIC), pp. 880–886. IEEE (2025)

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