

The Multidimensional Evolution of the Global Pet Economy: Driving Forces, Industrial Structure, and Sustainable Development Challenges

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Abstract. The pet economy has evolved from functional animal use to a multifaceted global industry, driven by pet anthropomorphism and demographic shifts. This paper examines its historical evolution, core sectors (e.g., food, healthcare, technology, and services), and growth drivers, including demographic trends, economic resilience, and emotional consumption. Anthrozoological research underscores pets' role in enhancing human well-being and social capital, while consumption sociology highlights the rise of premium, humanized pet products. Market analysis reveals steady global expansion, particularly in emerging economies like China. However, challenges such as market saturation, affordability crises, ethical concerns (e.g., overbreeding, environmental impacts), and regulatory gaps persist. Future trends may prioritize sustainability, industry consolidation, and pet-tech innovation, alongside bidirectional mental health support. The pet economy reflects shifting societal values, demanding a balance between economic growth and ethical responsibility to ensure equitable, sustainable development.

Keywords: Pet economy; Anthrozoology; Humanization of pets; Sustainable consumption; Market saturation; Animal welfare.

1. Introduction

In the course of human historical development, pets have gradually transitioned from being initially regarded as "functional animals" for labor and defense to serving as emotional supports and family members. Particularly since the mid-to-late 20th century, with the rise of urbanization and consumer culture, pets have been widely considered as "fur babies," with their emotional value becoming increasingly prominent in social life [1]. This transformation has not only altered the connotation of the human-pet relationship but also propelled the rapid expansion of related industries. The "pet economy" is a broad concept that encompasses all goods, services, and industrial chains related to the care, maintenance, and entertainment of companion animals, such as dogs, cats, birds, small mammals [2]. Its scope spans from basic food and medical services to grooming, insurance, smart products, and even funeral services, forming a highly diversified market system.

This paper posits that the modern pet economy has evolved into a robust and multifaceted global industry, primarily driven by the trend of "pet anthropomorphism" and demographic changes. On one hand, this industry has brought significant opportunities for economic growth and social employment; on the other hand, it also faces critical challenges such as market saturation, ethical consumption, and accessibility, factors that will largely determine its future development trajectory. The structure of this paper is as follows: Section Two reviews the historical evolution and global status quo of the pet economy; Section Three analyzes the core factors driving the industry's growth; Section Four explores the major challenges currently faced; Section Five looks ahead to future development trends and policy implications; and finally, the conclusion summarizes the entire paper.

2. Literature Review

2.1. Foundations of Anthrozoology

Anthrozoology provides theoretical support for understanding the psychological and sociological underpinnings of the pet economy. A substantial body of research demonstrates that interactions between humans and companion animals not only offer emotional comfort but also significantly enhance human physical and mental well-being. For instance, pet companionship has been found to effectively reduce individuals' stress levels and blood pressure, elevate positive emotions, and, to a certain extent, alleviate feelings of loneliness [3, 4]. Furthermore, pet ownership often facilitates neighborhood communication and social interactions, fostering stronger social connection networks [5]. Therefore, pets are not merely emotional objects but also crucial mediators for promoting public health and accumulating social capital.

The psychological and physiological benefits derived from human-animal interactions are multifaceted. From a psychological perspective, pets provide unconditional love and companionship, which can be particularly valuable in times of stress or emotional turmoil. The presence of a pet can serve as a source of comfort and stability, helping individuals cope with anxiety, depression, and other mental health challenges. Physiologically, the act of petting or interacting with an animal has been shown to trigger the release of oxytocin, a hormone associated with bonding and relaxation, while simultaneously reducing cortisol levels, a stress-related hormone. This biochemical response contributes to the overall improvement in well-being observed among pet owners.

Moreover, the social benefits of pet ownership extend beyond the individual level to the community at large. Pets often act as social catalysts, facilitating conversations and interactions among neighbors who might otherwise remain strangers. This increased social engagement can lead to the formation of stronger community bonds, enhanced social cohesion, and a greater sense of belonging among residents. In this way, pets play a vital role in fostering social capital, which refers to the networks, norms, and trust that facilitate cooperation and mutual support within a community.

2.2. Perspectives from the Sociology of Consumption

Within the framework of the sociology of consumption, the gradual integration of pets into human lifestyles and identity construction can be regarded as a quintessential example of "emotional consumption." Researcher emphasizes that in postmodern society, consumption has transcended mere material needs, becoming a means for individuals to express their emotions, identities, and social status [6]. The humanization of pets further intensifies this trend, as pets are accorded the status of family members, prompting owners to engage in premium consumption in areas such as food, healthcare, grooming, and high-end services [7]. This phenomenon not only reflects the intertwining of emotional and market logics but also reveals the underlying driving forces of "consumer culture" within the pet economy.

The humanization of pets is a multifaceted process that involves attributing human-like qualities, emotions, and behaviors to animals. This trend is evident in various aspects of pet ownership, from the names given to pets to the types of products and services purchased for them. For example, pet owners increasingly seek out gourmet pet foods that mimic human cuisine, invest in luxury pet beds and accessories, and enroll their pets in training classes and social activities designed to enhance their well-being and social skills. These behaviors reflect a deepening emotional bond between humans and pets, as well as a desire to provide the best possible care and lifestyle for them.

From a consumption perspective, the humanization of pets has significant implications for the pet economy. It drives demand for a wide range of premium products and services, creating new market opportunities and fueling industry growth. Moreover, it contributes to the development of a distinct pet consumer culture, characterized by a focus on quality, personalization, and emotional value. This culture, in turn, influences consumer behavior and preferences, shaping the direction of the pet economy and driving innovation within the industry.

2.3. Analysis of the Existing Market

Reports from market research institutions provide empirical evidence regarding the scale and trends of the pet economy's development. Data indicates that the global pet care market has maintained steady growth over the past decade, with the market size exceeding \$260 billion in 2022 and projected to continue expanding at an average annual rate of 5%–7% over the next five years [8]. Research reveals that the United States pet industry has long ranked first globally, with pet food and medical services being the most valuable market segments [9]. Additionally, scholar points out that the growth of the pet economy relies not only on consumption upgrades in developed countries but also on the rapid increase in pet households in emerging markets such as China and Brazil [10]. Particularly in China, pet-related expenditures have become an integral part of young people's lifestyles, and their growth potential has attracted significant attention [11].

The global pet care market's growth can be attributed to several factors, including rising disposable incomes, changing lifestyles, and increasing urbanization. As people's living standards improve, they are more willing to spend on their pets, seeking high-quality products and services that enhance their pets' well-being. Moreover, the trend towards urbanization has led to smaller living spaces and a greater need for companionship, making pets an attractive option for many individuals and families. In emerging markets, the growth of the middle class and the increasing acceptance of pet ownership as a lifestyle choice are driving the expansion of the pet economy.

The pet food and medical services segments are particularly significant within the global pet care market. Pet food is a recurring expense for pet owners, and the demand for high-quality, nutritious, and specialized pet foods is on the rise. Similarly, the medical services segment is growing rapidly, as pet owners prioritize their pets' health and well-being, seeking preventive care, vaccinations, and treatment for various ailments. These segments' growth reflects the increasing importance of pets in people's lives and the willingness of pet owners to invest in their pets' long-term health and happiness.

In conclusion, the existing literature offers complementary perspectives on the pet economy from the dimensions of anthrozoology, the sociology of consumption, and market analysis. The psychological and social benefits provide the cultural foundation of the pet economy, the logic of emotional consumption reveals its demand-side driving forces, and market reports outline the supply-side structure and growth paths. Collectively, these studies demonstrate that the pet economy is not merely an economic phenomenon but rather an industrial system deeply embedded in social culture and human emotions.

3. Research Methodology

This study employs a qualitative research methodology, involving a systematic review and comprehensive synthesis of secondary data derived from academic literature, industry reports, financial publications, and authoritative news sources. Grounded in literature review and theoretical analysis, the research design aims to conduct an in-depth exploration of the driving forces, market structure, and existing challenges within the pet economy. The data sources primarily encompass statistical reports from market research institutions, such as Euromonitor, financial announcements of pet enterprises, annual data released by industry associations, such as the American Pet Products Association, APPA, and peer-reviewed academic research findings from fields including human-animal interaction studies and consumption sociology. Despite its advantages of extensive coverage and theoretical integration, this methodology also presents certain limitations: on one hand, some industry reports may exhibit potential biases influenced by the stances of their sponsors; on the other hand, the informal sector within the pet economy lacks standardized statistical measurement, making it difficult to fully quantify and potentially affecting the accurate assessment of the overall market size.

4. Core Components of the Pet Economy: Sectoral Analysis

4.1. Pet Food and Nutrition: The Core Engine of the Market

Pet food has long been regarded as a foundational segment of the pet economy. Initially dominated by standardized kibble, the market has evolved with rising consumer affluence and the intensifying trend of "pet anthropomorphism," leading to a growing preference for premium, natural, organic, and even "human-grade" products [8]. Additionally, there has been a rapid expansion in specialized dietary needs, including grain-free options, Biologically Appropriate Raw Food (BARF) diets, freeze-dried foods, and personalized meal services. Meanwhile, pet treats and functional supplements have emerged as new growth drivers within the pet food industry. Research indicates that China's pet food market is among the fastest-growing globally, with consumers showing a strong preference for imported and premium products [12].

4.2. Pet Healthcare: A High-Cost Necessity

The extension of pet lifespans and advancements in veterinary care have rendered pet healthcare both high-cost and increasingly specialized. Subspecialties such as oncology and cardiology have emerged within veterinary medicine, driving up treatment costs significantly (APPA, 2022). The rise of pet insurance has partially alleviated financial burdens, with growing market penetration in North America and Europe [13]. Additionally, demand for foundational preventive care—including vaccinations, deworming, and heartworm prevention—remains robust. China's pet healthcare market is also expanding rapidly, with the 2021 market size for pet medical services exceeding RMB 70 billion [14].

4.3. Pet Supplies, Accessories, and the "Petification" of Home Environments

The pet supplies market has expanded from basic leashes and crates to a diverse array of premium products. Examples include designer pet apparel, GPS-enabled smart collars (e.g., Fi, Whistle), smart feeders (e.g., Petkit), and remote interaction cameras. Concurrently, "pet-friendly home design" has gained traction, with furniture and living spaces increasingly emphasizing both aesthetics and functionality—such as pet beds, feeding stations, and cat trees that integrate seamlessly with home décor [9]. This trend reflects the convergence of pet familialization and evolving consumer aesthetics.

4.4. Services: Centered on Experience and Care

The pet services industry has experienced rapid growth, encompassing high-end grooming salons, mobile grooming units, daycare and boarding facilities, and luxury pet hotels. In North America and Europe, pet training and behavioral therapy are becoming standardized offerings; digitally, platforms like Rover and Wag provide dog-walking and in-home pet-sitting services, forming a sharing economy model [10]. In China, internet platforms are increasingly integrating online booking with offline services.

4.5. Non-Traditional and Emerging Sectors

The pet technology (Pet Tech) sector has grown rapidly, encompassing IoT-enabled products such as smart monitors, self-cleaning litter boxes, and interactive toys. The pet travel industry is also thriving, creating new consumption scenarios ranging from pet air cargo transport and pet-friendly hotels to travel accessories. Another fast-growing area is pet funeral services and end-of-life care, including cremation, pet cemeteries, and grief counseling, reflecting the full lifecycle needs driven by pet familialization [11].

5. Key Drivers of Growth in the Pet Economy

5.1. Demographic and Social Trends

The evolution of demographic structures serves as a pivotal contextual factor underpinning the sustained growth of the pet economy. Across numerous advanced and emerging economies, declining fertility rates and the concurrent proliferation of single-person households have significantly altered the traditional family dynamic, with pets increasingly assuming roles as substitutes for children. This phenomenon is particularly pronounced among young single adults and DINK (dual-income, no kids) families, who, in the absence of human offspring, channel their nurturing instincts and emotional investments into pet companionship [15]. Within this demographic cohort, Millennials and Generation Z emerge as the primary engines of pet consumption, exhibiting a marked preference for premium, ethically sourced, and sustainable pet products. Their purchasing decisions are often informed by a broader commitment to environmental stewardship and animal welfare, reflecting a generational shift towards conscientious consumerism. The COVID-19 pandemic further catalyzed this trend, precipitating a global surge in pet adoptions, colloquially dubbed the "pandemic pet boom." As lockdown measures confined populations to their homes, the demand for animal companionship soared, leading to a significant uptick in pet ownership rates and, by extension, accelerating the expansion of the pet industry [13].

5.2. The Trend of Pet Humanization

At the heart of the pet economy's consumption upgrade lies the phenomenon of "pet anthropomorphism," or the attribution of human characteristics to animals. As pets are increasingly perceived as integral family members rather than mere possessions, this shift in mindset has profound implications for consumer behavior. Pet owners, driven by a desire to provide the best possible care for their animal companions, demonstrate a growing willingness to invest in organic, artisanal, or technologically enhanced pet products that mirror trends in human consumption [16]. The scope of pet expenditure has thus expanded beyond basic survival needs, encompassing a wide array of emotional and lifestyle-oriented goods and services. From luxury pet beds and designer apparel to gourmet pet cuisine and advanced health monitoring devices, the market for premium pet products continues to flourish, fueled by the humanization trend.

5.3. Economic Factors

The pet economy exhibits a remarkable degree of "counter-cyclical" resilience, with pet-related expenditures proving relatively inelastic even in the face of economic downturns [8]. This stability can be attributed to the deep emotional bonds forged between pets and their owners, which render spending on pet care a non-negotiable priority for many households. Furthermore, the sector has witnessed a surge in investment from both venture capital firms and multinational corporations, providing the financial impetus for ongoing innovation and industry consolidation. In China, for instance, capital market interest in pet food manufacturing, veterinary healthcare services, and pet-centric internet platforms has intensified in recent years, reflecting a broader recognition of the sector's growth potential [14]. This influx of capital has facilitated the development of cutting-edge products and services, while also driving mergers and acquisitions that are reshaping the competitive landscape of the global pet industry.

6. Challenges and Key Considerations

6.1. Economic and Market Challenges

Despite the pet economy's sustained rapid growth in recent years, debates have emerged regarding "market saturation" and the concept of "peak pet." Some scholars argue that in developed nations, pet ownership rates are nearing their upper limits, with further growth relying more on consumption

upgrading rather than numerical expansion [8]. However, the trend toward premiumization and price inflation may face diminishing marginal returns, as some consumers begin questioning the cost-effectiveness of high-priced pet products. Concurrently, the overall cost of pet ownership has risen significantly, encompassing expenditures on food, healthcare, and services, potentially triggering an "affordability crisis" for some households and even leading to pet abandonment [9]. In the healthcare sector, exorbitant veterinary costs coupled with inadequate pet insurance coverage have burdened pet owners with substantial "veterinary debt," exacerbating disparities in healthcare accessibility across income groups [17].

6.2. Ethical and Welfare Concerns

Ethical and animal welfare issues represent critical challenges confronting the pet economy. First, certain dog and cat breeds have been overbred to meet aesthetic preferences, resulting in inherent health problems such as respiratory and joint disorders, raising ethical questions about "extreme breeding" practices [16]. Second, sustainability within the pet industry has drawn significant attention. The high meat demand in pet food production has increased carbon footprints, making the "environmental pawprint" a prominent topic of discussion. Additionally, pet toys and litter generate substantial plastic waste and non-biodegradable refuse, further intensifying environmental pressures [11]. Furthermore, impulsive consumption and overbreeding remain pressing issues. Some consumers purchase pets driven by short-term emotional needs but abandon them due to a lack of long-term commitment, straining shelter capacities—a phenomenon observed in both China and the United States [15]. Consequently, promoting adoption over purchase and strengthening animal welfare legislation have become imperative.

6.3. Regulatory and Legal Landscape

The rapid expansion of the pet industry has also challenged existing legal frameworks. First, within family law, the legal status of pet custody in divorce cases remains ambiguous. While some jurisdictions have begun treating pets as "quasi-family members" rather than mere property, progress has been slow overall [11]. Second, emerging sectors such as pet insurance and telehealth lack comprehensive regulatory frameworks, posing risks related to service quality, data privacy, and liability determination [10]. Additionally, emerging sectors like pet funeral services and cross-border pet transportation operate in regulatory gray areas, lacking unified standards and hindering industry normalization and sustainable development.

7. Conclusion

In summary, the pet economy constitutes a complex system driven by profound emotional bonds. It spans diversified sectors, including food, healthcare, services, technology, and funeral services, demonstrating robust growth potential globally. However, its development is not without externalities, as it faces significant challenges such as market saturation, affordability crises, animal welfare concerns, and sustainability issues.

Looking ahead, the pet economy may evolve along the following trends: First, sustainability will become a priority, with the popularization of insect-based pet food and recyclable, eco-friendly products. Second, industry consolidation will intensify, as multinational giants like Mars and Nestlé Purina further integrate markets through mergers and acquisitions. Third, pet technology will mature rapidly, expanding applications from smart wearables to telemedicine. Fourth, bidirectional mental health needs between pets and owners will garner greater attention, driving the expansion of related products and services.

The pet economy is not merely an economic phenomenon but also a vital lens through which to examine evolving societal values, consumption patterns, and conceptions of "family" in modern society. Its future trajectory will hinge on achieving a balance between economic growth and ethical responsibility, as well as animal welfare. In other words, sustained prosperity in the pet economy

requires addressing societal expectations for equitable, sustainable, and responsible consumption while meeting market demands

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