



A Review of China's Zoos' Problems and Possible Solutions

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ABSTRACT

Most zoos in China are facing declining revenue, mainly due to a decrease in the number of visitors. This paper combs and summarizes the literature from two aspects: problems in zoos' operation and possible solutions, which refers to the recession in revenue that most zoos in China (this paper will use Nanjing Zoo and Beijing Zoo exclusively as examples) face nowadays. The research results show two societal factors which are the Covid-19 pandemic and zoos' subsidies, and zoos' individual factors like its design, are the main reasons for the issue of zoos' operation.

Keywords: *Covid-19, Management, Zoos.*

1. INTRODUCTION

1.1. Research Background

According to the explanation about zoos given by Oxford language, zoos have the main goal of profit by entertaining people. They have existed for about 60 years. Most zoos had financial crises due to the covid-19 pandemic, such as Haitian Zoo, which had a 145 billion Yuan deficit in 2020, and its revenue reduced about 60%[1]. Due to the decreasing number of customers, Nanjing Zoo is facing a breakdown. In order to save itself and save all the starving animals too, Nanjing Zoo published a policy encouraging people to donate and they can name an animal in the zoo after them. In this case, with the added financial support, Nanjing Zoo can at least feed its animals, though it is still hard for them to recover the salary of all employees.

The pandemic is not the only reason for zoos' deficit. Many zoos in China reach their revenue peak two years after their opening, following a flat trend of revenue. For instance, Daliangshengya Zoo's profit decreased from 2018 to 2020, from 337 billion Yuan to 1.14 hundred billion. It sold 44 penguins in 2020 in order to have funds to keep operating, which is a way to solve the most severe financial problems but may cause further crisis in the future, for the reduction in exhibited animals.

1.2. Research Significance

There has been research conducted to analyze zoos' impact on economics. For instance, which focused on macro-scale influences and development of zoos, "revealing the levels of funding available by entrance fees and other revenues generated during visits are the main sources of funding for zoos. The analysis revealed a positive significant relationship between a country's population size, country income and zoo-attendance figures."

Recently, due to the covid-19 pandemic, certain zoos had economic crises, and several researchers looked into this situation, which includes zoos' struggling to access Covid-19 support by Josh Loeb[2]. For instance, Nanjing Zoo lost 30 million RMB in 2020 for the close down during covid-19 pandemic, and Newminster Zoo had lost 1.354 million RMB during the pandemic as well. Zoos struggling to access support during the Covid-19 pandemic pointed out that the funding for zoos has been given to the wrong place: "The funds for zoos focus solely on the welfare of animals, like providing fees to feed the animals, rather than looking holistically at supporting zoo recovery, such as the financial support to recover employees' salaries have not been met."

This paper will overview research done before and according to the latest change of zoos to conclude the proper way for them to operate under the present circumstance, and also analyze their underlying problems. The past research mostly focused on the status

of zoos under unusual social backgrounds such as the Great Recession, like "The Economic Impact of Spending for Operations and Construction in AZA-accredited Zoos and Aquariums" by Stephen S. Fuller, or their circumstances under a certain background, a paper called "What Did We Learn from the Financial Crisis, the Great Recession, and the Pathetic Recovery" by Alan S. Blinder concluded the circumstance of zoos in the Great Recession. This paper; on the other hand, will specifically illustrate the deficiencies of zoos which had been magnified in the Covid-19 pandemic, including their financial relationship with the government, their main profit way and so on. My research is about the problems zoos now face, and how possible solutions to benefit them. This can provide people with a broader insight about the condition that zoos are in, and the economic crash that pandemic had brought to society.

1.3. Paper Organization

This paper will firstly review the past research about zoos, and analyze the problems they point out about zoos' operations as well as the possible solutions they stated about these issues. This paper will analyze the profitability of zoos' operation as well as the economic trend it reflects, which is a current representation for the economic crash caused by the pandemic. Then, give solutions to improve certain problems in zoos' operations. Finally, this paper will discuss its own uniqueness and practical applications in the zoos.

2. METHODS

Marginal revenue, which counts for the annual revenue change, can reflect zoos' change in economic conditions, since it is a standard to evaluate zoos' income.

According to the official website of Nanjing Zoo and Beijing Zoo, both of them derive their income mainly from tickets, meals, and souvenirs sold in the zoo. In these aspects, the ticket prices contribute about 50% of the total income, but it also fluctuates annually. In order to compare the difference in this part, a calculation of their revenue earned through these is necessary. The rent cost for Beijing Zoo is paid by the government, which is a non-existent cost which does not need to be considered. The relationship between expense and revenue is that, as the revenue is fixed, the more expenses zoos have, the less profit they earn. The average salary for employees in Beijing Zoo is 5600 RMB per month. The average salary for employees in Nanjing Zoo is 4000 RMB per month. The salary is also a part of spending the zoos need to consider. One major difference in their income resource is the profit earned from animal performances. Beijing Zoo had animal performances twice per day, which can bring it considerable income (the zoo can earn about 50 thousand RMB from animal performances per day). On the contrary, Nanjing Zoo had stopped its animal

performance since 2011, which lost a source of income compared with Beijing Zoo.

Beijing Zoo operates in the following way: the Bureau of Parks and Woods or Forest grass bureau is in charge of it, and it needs to hand over its revenue into the financial bureau. Also, all of its budget is given by the government. By contrast, Nanjing Zoo is the only self-supporting zoo in China. Besides, it needs to give a fixed ratio of its income to the government annually. Then we can conclude the difference that matters between them is the relationship with the government. The significance for this is their control on the ticket price, since Beijing Zoo is being charged by the government, its ticket price is strictly regulated, while Nanjing Zoo's ticket price is more flexible.

All the datas, like the revenue fluctuations mentioned in the following review, and references are found on the internet database, including academic essays and news.

3. LITERATURE REVIEW

3.1. Current Deficiencies of Zoos

Several research projects illustrate the problems that exist in the zoo operation in China. "The possible solutions to increase China's zoos' profit" by Shixiong Mi listed the number of issues of zoo operations in China[3]. All the mentioned problems in this paper can result in reduced visitor numbers and can be prevented with proper modification. Moreover, these problems are common among China's zoos.

First, the construction of zoos is normally not economically efficient, which leads to unattractive design for visitors. This problem mostly consists of zoos which were built decades ago, and it is mostly hard for them to rebuild and change the inefficient structures now. These inefficient designs sometimes lead to lower visitor numbers, which will affect the marginal revenue of the zoos. This paper further analyzed the zoos which showed this problem, and Nanjing Zoo is an example of this.

In 2020, Nanjing Zoo announced that it was going to expand. What is intriguing is that after its expansion, which was constructed towards residential areas, the distance between the zoo and the nearest residential area is only 20 miles. According to the local newspaper, zoos that build near such places commonly suffer from high renting tax. Nanjing Zoo is also the only self-support zoo in China, meaning that they need to bear these costs by themselves instead of the government. Moreover, according to the interview of local residents, 20 miles of distance is too close for zoos to be near residential areas, since residents were dissatisfied with the zoo since the noise and unpleasant smell of animals brought by the zoo can be a disturbing aspect for residents, and they were not receiving compensation for this situation. Due to the unsatisfying comments made by the residents online, it is

obvious that such a decision obviously blemished Nanjing Zoo's public image, which potentially led to reducing customers. According to Pengpai News, lots of residents showed their disagreement about the expansion plan of Nanjing Zoo. Nanjing Zoo's ignorance about residents' objections undeniably showed a lack of social responsibility, which, in the long run can cause it significant financial damage, since most of its revenue comes from visits by nearby schools and citizens. These people used to treat Nanjing Zoo as one of the best entertainment places to go. Undoubtedly, by reducing the visits of this portion of people, the marginal revenue can be seriously affected. According to the comments made by residents, over 50% of the residents, which is more than 1000 people, had a negative attitude on the expansion plan.

Second, the traditional way for zoos to operate can be monotonous, which leads to profit declining after its peak has arrived about several years after opening. According to Ali Arsan, people hate monotonous activities, whether in life or at work. If the activities in the zoo are monotonous, most people will get bored after a few visits, which leads to fewer and fewer customers at the zoo. The official website of Beijing Zoo shows the flat trend of its visitor numbers over years, the main reason behind this is the lack of innovation in the zoo's activities, meaning that Beijing Zoo is keeping using its stereotype activities without new attractive ones. Lots of zoos located in Sichuan, Shandong, and Beijing had their financial income fall from 50% in the past to the current stage of 20%. Figure 1 shows the monthly number of visitors from Taipei Zoo during 1987 to 2013. The obvious trend is flat when there are no new species or disasters that strike.

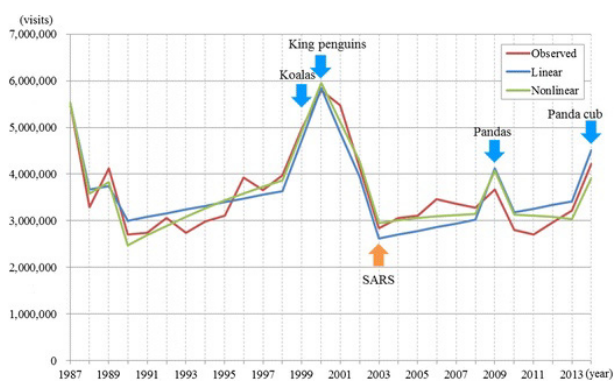


Figure 1 The trend of Taipei Zoo's customer number

Third, the influence of Covid-19 pandemic is fatal. Several articles had pointed out the decreasing number of zoo visitors due to the pandemic. Nearly every business suffered from the pandemic. However, the difference between zoos and companies is that zoos need to consider the possibility for animals to infect the virus, which is an aspect that leads to greater panic among people. Thousands of zoos around the globe have been closed temporarily due to the pandemic, which seriously

affected their process of receiving welfare[4]. There are factors such as loss of income, decreased staffing levels, reduced food supplies and increased food costs for captive wildlife facilities[5]. BBC reported in 2020 that Covid-19 leads to a funding crisis which affects the zoo's vital animal conservation. Nanjing Zoo is a perfect example for this. During the closing period of 51 days, Nanjing Zoo had a thirty million deficit in income, and they only left five hundred thousand for financial support total. In order to ensure there was enough food for animals, they had to reduce the salary for employees.

3.2. Possible Solutions

Firstly, as for the problem of inefficient construction which leads to unnecessary financial cost, in order to prevent the extra financial loss caused by inefficient zoo design, several suggestions stated by Jiang Hong, from Harbin Institute of Technology and Architecture University, can be useful. It is important to choose the right natural environment. It is essential to consider different rent for different locations and lands. Appropriate location can low the rent the zoo needs to pay. Urban zoos which mostly need high rent fees, such as Washington Zoo and Beijing Zoo, have the main purpose of preservation, education, research, and entertainment. In this case, they need to take advantage of urban areas and make up for the disadvantage of high renting costs. Take Beijing Zoo as an example. Since it needs to be convenient for citizens to visit, the location should be close to the city center. Located at Xizhimen, people can easily approach the Beijing Zoo by subway. Also, clear signs in zoos can enable people to see all the animals conveniently, which is a change zoos can make now.

Secondly, when it comes to the single-minded way of operation in zoos which result in declining visitors, it is easy to conclude that changing the stereotypical way of operation and activities can improve its customer's number. According to CABI, new species of animals can be an effective way to increase customers. However, it is impossible for zoos to keep adding new species of animals yearly just to increase visitors' number. In this circumstance, new ways of operating can be an alternative choice of adding new species of animals. For instance, zoos can open restaurants with the style of environment that animals live in. This kind of business activity can help the zoos to escape from the monotonous way of operating, and have a chance to rise again. In 2022, Chengdu Zoo made animals' food into the shape of "Yuanxiao" which is a kind of traditional snack in China, fitting the background of Yuanxiao festival. According to the local news, this amusing action brought visitors to the zoo, since they were curious about the exact appearance of this "festival food" specially made for animals. Another similar approach of getting rid of the simple way of profit in zoos is to develop products that attract

customers more. Beijing Zoo had several products that attracted customers, like its panda toys that had been selling for years, and the monkey ornament that appeared recently.

Thirdly, there are some approaches that could help zoos to recover their economic circumstances as fast as possible. Still take Nanjing Zoo as an example[6]. Although experiencing an economic deficit due to the pandemic, the positive side for Nanjing Zoo is the benefit it can receive from its strong socially responsible behaviors. The action of reducing salary for employees to protect animals' life generated positive social impact by demonstrating the importance of lives instead of money, and its decision of cancelling animal performances since 2011 had support from countless animal lovers. Even though inflation in China never stopped, Nanjing Zoo insisted on its ticket price of 40 RMB for decades. These actions all gave it a positive social appearance. For all the zoos, it is important to increase their income after they open to the public. According to Chris.B.Murphy, showing great social responsibility can be a way to attract customers, since people tend to choose institutions that have socially beneficial business activities. In other words, this is actually a behavior of business ethics[7]. By definition, business ethics refers to the standards for morally right and wrong conduct in business[8,9]. Research shows that the construction of wildlife parks in China is still in its infancy, and there are still some problems in its development process: misunderstandings about the meaning of wildlife parks, lack of legal constraints, ex situ protection functions are not well played, and animal welfare is poor. , Serious security risks, weak ability to resist market risks and other issues[10]. Law partially defines the conduct, but "legal" and "ethical" aren't necessarily the same. Business ethics enhances the law by outlining acceptable behaviors beyond government control. U.S. News & World Report reported that ethics education is vital to a well-rounded MBA curriculum.

Moreover, subsidies can help these zoos to keep operating on their social mission. Apart from financial recovery of the zoo itself, governments will provide financial support for certain zoos, for some zoos have the responsibility of civil education and animal preservation. According to Jade Macmillan, the huge positive flow -on effect of zoos cannot be underestimated. They bring thousands of visitors into communities who then spend millions of dollars visiting other attractions, sleeping in our hotels and dining in our restaurants. For this reason, the Federal Government provided a 95million dollar's subsidy for zoos in the US.

4. CONCLUSION

This paper reviews and analyzes problems, ranging from root causes (such as COVID-19) to reduced incomes of residents, to policy disruptions in the context

of a pandemic, and suggests possible solutions based on actual developments in some zoos. On this basis, combined with the sustainable development concept of resource economics and the tourism experience theory of experience economics, the sustainable development strategy of attracting tourists by strengthening participation and improving the function of popular science education is put forward with the primary purpose of resource protection .At the same time, other suggestions are also put forward in response to the existing problems. The results show that, in order to better adapt to the market development, firstly, the zoo should be well planned before construction; secondly, the operation mode should be diversified, and the new activities of the zoo should be enriched to get rid of the monotonous operation mode. Third, in the post-pandemic era, by taking advantage of government subsidies and social responsibility, zoos can attract more tourists and resume their leisure operations. The paper concludes by pointing out the main problems of zoos and the ways to solve them. By using effective business practices and management mechanisms, zoos can gradually recover from financial crises caused by unchanged business practices or the Covid-19 pandemic. In this case, the zoo can better play its role in education, animal protection, and folk entertainment. Due to the unpleasant situations most zoos are now facing, this article may shed light on their situation and possibly provide them with a better solution than before.

REFERENCES

- [1] G.Davey . (2007). An analysis of country, socio-economic and time factors on worldwide zoo attendance during a 40 year period. International Zoo Yearbook.
- [2] Josh Loeb, 2020, Zoos struggling to access Covid-19 support.https://web.archive.org/web/20210716003934id_/https://bvajournals.onlinelibrary.wiley.com/doi/pdfdirect/10.1002/vetr.354
- [3] X.D. Tan. (2019). Reflections on improving the economic benefits of zoos. Encyclopedia Forum Electronic Journal, 000(022), 788.
- [4] Helen Briggs, 2020, Covid-19: Funding crisis threatens zoos' vital conservation work <https://www.bbc.com/news/science-environment-53938561>
- [5] Wild Welfare, 2022, Charity Challenge Event---- Walking Around The World For Animal Welfare.<https://wildwelfare.org/charity-challenge-event-walking-around-the-world-for-animal-welfare/>
- [6] Jiefu, 2022, Nanjing Zoo: insisting reject animal performance even in financial crisis.

https://3g.163.com/dy/article/H0B830BF0552598D.html?spss=adap_pc

- [7] Karisa Schroeder, 2021, 3 reasons why business ethics is important. <https://www.redlands.edu/study/schools-and-centers/business/sbblog/2019/may-2019/3-reasons-why-business-ethics-important/#:~:text=Business%20ethics%20enhance%20the%20law,become%20common%2C%20the%20quality%20varies.>
- [8] Ethics and Compliance Initiative. (2021). "The State of Ethics & Compliance in the Workplace," Page 16-22.
- [9] Ethics & Compliance Initiative (ECI). (2021). "2021 Global Business Ethics Survey® Report The State of Ethics & Compliance in the Workplace: A Look at Global Trends."
- [10] X.M. Yang, & F. Li. (2008). Prominent problems in the development of China's wildlife parks and countermeasures for sustainable development. *Wildlife*, 29(3), 6.

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