

INVESTIGATING ZOO MANAGEMENT BASED ON VISITORS' PERCEPTION OF SERVICE PERFORMANCE: A CASE OF ZOO RABBITLAND, MALAYSIA

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Abstract: The investigation of visitors' perceptions of service performance is essential in identifying best practices for zoo management. This is critical to ensure a worthwhile experience for visitors and guarantee the long-term viability of the business. However, despite the current demands and expectations of visitors, the facets of zoo management remain under-researched. This study conducted a descriptive analysis to identify and prioritise the dimensions of perceived zoo service performance that require attention from Rabbitland Zoo management to make informed decisions towards better service offerings. The research findings revealed that location and ticket pricing received the highest mean score, indicating that both dimensions align with visitors' demands. Although three dimensions of service performance, namely animal welfare, amenities, and educational-related needs, received mean scores between 3.50 and 3.95 (medium performance), these areas require attention from management as they are more likely to impact visitors' willingness to pay for future zoo visits. In particular, animal-based educational projects can be a promising strategy to enhance school and family market attraction. Furthermore, future research may explore emerging perspectives on zoo management through expert opinions, uncovering the potential development of sustainable business models in zoo tourism.

Keywords: Business excellence, service performance, animal zoo tourism, zoo management, sustainability.

Introduction

The COVID-19 pandemic negatively affected global tourism, which experienced a drastically decreased number of international tourist arrivals, with a 74% decline in 2020 due to travel restrictions [United Nations World Tourism Organisation (UNWTO), 2021]. One of the most severely affected sectors is zoo tourism, a critical sector in many countries worldwide. Generally, more than 200 million visitors visit zoos for entertainment, education, and other purposes [Association of Zoo and Aquarium (AZA), 2021]. Specifically, over 90% of visitors visit zoos to see the animals up close and learn about animal welfare (AZA, 2021). Providing entertainment and education is challenging in zoo tourism as feeding, sanitation, and disease

control can be challenging (Essen *et al.*, 2020). This became harsher during the pandemic as zoo operators depended on the presence of visitors for financial resources.

The financial impact due to the COVID-19 pandemic affected the animals in zoos. The management of zoos was severely impacted due to financial resource constraints caused by the movement control order (MCO). Management and operation costs had to be reduced to ensure survival, which impacted the environment and animal welfare at the zoo (Fitzsimons, 2021; Ten *et al.*, 2021). Zoos require high operating costs of up to millions of dollars depending on the size, type of animal, number of species, and number of

workers involved. Besides, considering the costs of food, healthcare, and the environment, it is necessary to ensure that the welfare of animals is always maintained. Some zoos must appeal for donations to continue operating, especially privately funded by non-government organisations (NGOs). A zoo in Indonesia was reported to cull animals to feed others because of financial constraints, whereas the London Zoo had to appeal for donations to fund expenses (Leoi, 2020).

In Malaysia, some zoo management had to consider restructuring or appealing for public donations to help overcome the financial constraints to cover expenses. Those affected include Melaka Zoo and the National Zoo of Malaysia (Zoo Negara). Zoo Negara, managed by an NGO, applied for public contributions to cover costs of more than RM1 million monthly due to the impact of the MCO (Leoi, 2020). The Melaka Zoo management considered restructuring if the MCO continued towards the year-end to ensure the welfare of more than 500 animals, including 250 protected species (Bernama, 2021). A part of the structuring plan includes returning the animals to the Department of Wildlife and National Parks (Perhilitan) or becoming a private zoo. The zoo management highly relies on the presence of visitors who contribute financial resources for satisfactory animal welfare. Poor animal welfare conditions and performance could disappoint visitors and lead to a decline in their visitation to the zoo (Agyeman & Asebah, 2022). The natural habitat of animals needs to be replicated to make a zoo more competitive and acceptable to society. However, many zoos continue to use traditional and outdated facilities due to financial constraints, discouraging visitation and thus failing to provide a satisfactory experience for visitors (Agyeman & Asebah, 2022; Lee, 2015).

To ensure the presence of visitors to the zoo, it is necessary to know what satisfies customers, which is partly related to the performance of the zoo management in providing services to customers (Agyeman & Asebah, 2022). The authors indicated that service quality and satisfaction of visitors are

key to financial achievement and the recurrence of visits (Mohamed *et al.*, 2021). However, few studies have been conducted on evaluating visitors' perceptions, specifically concerning the service performance of zoos during and after Covid 19. Despite many studies conducted on the financial generation to cover the cost of zoo management and performance such as in Lai and Hitchcock (2015), Bowie and Chang (2005) and Lee (2015), operators are still facing the same problems and the situation has worsened because of the COVID-19. Based on the observation of the current study, limited studies are available to solicit local visitors' views on zoo service performance in Malaysia.

Furthermore, despite the extensive and diverse field of zoo studies, continuous research is necessary to explore zoo tourism from the perspective of tourist attractions, as the dynamic nature of zoo operations and evolving tourist behavioural responses indicate a rapidly changing industry (Nekolný & Fialová, 2018). Consequently, examining zoos through the lens of tourist attractions constitutes an emerging research area that remains not fully explored. Historically, the term 'zoo' may have been understood simply as a facility for breeding, housing, and displaying animals (Habel & Mroczkowski, 2015). However, recent studies, such as those by Nekolný and Fialová (2018), suggest that the concept now encompasses a broader range of functions, extending beyond traditional zoos to include leisure activities, such as entertainment and recreation. This signifies the emergence of 'zoo tourism', a field addressing various topics, including commercialisation, sustainability, and behavioural and motivational research approaches (Godinez & Fernandez, 2019).

Likewise, due to its economic significance, numerous contemporary zoos are situated in rural settings. Findings from studies conducted within the context of rural zoo tourism may offer distinct insights, suggesting informed and tailored perspectives for the decision-making of zoo management. In the case of Malaysia, albeit the longstanding presence of government-supported animal zoos, the establishment of privately-held

zoos has become increasingly prominent with the support of government incentives aimed at fostering the industry's contribution to national economic growth (Ministry of Tourism, Arts and Culture Malaysia, 2017). Nonetheless, managing an animal zoo presents significant challenges, encompassing aspects such as safety and emergency procedures, nutrition planning, sanitation, and conservation, which vary according to the specific needs of different animal categories. Crucially, zoo operators must ensure that the landscape and management of captive animals are consistently maintained to a high standard, as these elements represent the key selling points of the industry in attracting visitors and sustaining the business.

Hence, it is vital to assess visitors' perceptions of service performance, as private zoo operators face greater challenges than their non-profit counterparts in adapting their businesses to meet evolving demands and expectations of visitors (Tomas *et al.*, 2002). Notably, in the 'new normal' context following the COVID-19 pandemic, continuous review and monitoring of various aspects of zoo performance are essential, as the leisure market has become increasingly uncertain and sensitive. Consequently, poor zoo management, such as inadequate animal welfare, may result in a negative image and eventually discourage potential visitors (Emma *et al.*, 2016).

Consequently, this study primarily aims to investigate the service performance level at Rabbitland Zoo, a privately-owned establishment located in the rural area of Jengka, Pahang. This research sought to provide valuable information to the zoo management, highlighting areas that require further improvement by assessing various service attributes and ranking them accordingly.

The primary objective of this study is to benefit the founder and management of Rabbitland Zoo by identifying aspects that can ensure the sustainability of the zoo and protect the economic welfare of local communities, including its employees and small enterprises. Although there have been significant revenue

losses caused by the forced closure of the zoo during the COVID-19 pandemic, the management has made various efforts to enhance the offerings of the facility. Concurrently, the number of animal species has increased to provide excitement for children and families, enhancing the zoo's appeal as a meaningful recreational destination. As the management invests further in business improvements, such enhancements must align with visitors' expectations, ultimately contributing to the long-term operation and sustainability of the rural-based zoo project.

Hence, this study aims to identify the key performance indicators for animal zoos and subsequently examine the service attributes that warrant prioritisation in decision-making and quality enhancement processes. This is to comprehend visitor needs and satisfaction better.

The Aspect of Zoo Tourism Management

Zoo tourism can expand the public's interest in animals and learn about biodiversity protection. Conversely, visits to the zoo may be considered an unpleasant experience if people believe that animal welfare is neglected. Furthermore, interactions with workers and viewing the animals in a clean and natural habitat may result in a more favourable experience. Zoo operators will directly impact visitors' memorable experiences by enhancing services and facilities that comprise the servicescape dimensions (Rashid *et al.*, 2021).

Animal welfare refers to how an animal copes with the circumstances of its life. An animal is in good well-being if it is healthy, comfortable, well-nourished, safe, capable of expressing inherent behaviour, and not suffering from unpleasant states such as pain, fear, and distress, as determined by scientific data. Disease prevention and veterinarian care, adequate shelter, management, feeding, humane handling, and humane killing are required for good animal well-being (Animal Welfare, 2021).

Furthermore, other criteria for animal welfare are individual animal characteristics such

as species attributes, genetics, temperament, and experience combined with contextual features such as social grouping, enclosure design, and sensory environment. The presence of tourists is a significant aspect of a zoo's habitat. According to decades of study on the visitor effect in zoos, visitors can exert negative, neutral, or positive effects on zoo animal behaviour and welfare (Sherwen & Hemsworth, 2019). Examining the whole spectrum of a species' biological requirements and demands is critical when developing a welfare strategy. Anything that can be learned about an animal's natural history will help better understand its needs and the conditions in which it should be kept in captivity (Wolfensohn *et al.*, 2018).

Memorable animal interactions improve tourist pleasure, leading to a return visit and referrals to family and friends. The views and opinions of the zoo's visitors are essential since they guide the ongoing improvement of the zoos. People should be engaged to determine whether holding the animals in captivity benefits them entirely (Rashid *et al.*, 2021). Improving service quality to acquire additional competitive advantages is one of the keys to managing tourism attractions in the travel business. Most people have high expectations when they visit the National Zoo as a tourist destination. Determining the quality of services, the National Zoo management offers to take corrective steps is a time factor (Izzah *et al.*, 2020). Most people have high expectations when visiting the zoo as a leisure or tourism attraction. However, many of them appear to be disappointed with the facilities and services of the zoos. The expectations of visitors and the quality of the facilities and services must be first identified to take corrective steps (Bahari & Ling, 2016). Zoos must maintain a high quality of animal welfare, which may be measured using a combination of resource-based and animal-based indices, often classified as behavioural indicators, physiological indicators, and clinical or pathological indications (Wolfensohn *et al.*, 2018).

Zoos with greater visitor numbers and ratings might charge higher entry fees to reflect

the collection's growing appeal as a visitor attraction. Many other factors, such as enclosure design, welfare standards, marketing strategies, zoo amenities and gastronomy, and accessibility, significantly impact visitors. Hence, these factors should be considered in future attempts to measure zoo popularity rather than the species' popularity within the zoo (Whitworth, 2012). Zoos contribute significant resources to in-situ conservation efforts in natural habitats through income from visitor attendance and other sources. Zoos with many animals, big animals, and a diversity of species that differ from other zoos attract more visitors and contribute to more in-situ conservation programmes (Mooney *et al.*, 2020).

Zoos may benefit from climate change education because they provide simple access, possibilities for life-long learning, and hands-on training for dealing with environmental education problems. They encourage learning by offering a relaxed, enjoyable, and low-pressure environment to learn about the world and its inhabitants, which may be broadened to create a conservation-minded community. Zoos already have a large audience and should continue to find innovative methods to engage visitors to reinforce and expand global sustainability ideas and activities (Taylor & Duram, 2021). Understanding the needs and zoo visitors' satisfaction levels is becoming increasingly important to maintain a steady tourist flow in the increasingly competitive tourism sector. Visitors value convenience and safety when watching animals, while children are a powerful incentive for zoo visits.

Although animal welfare and information-seeking qualities have low significance on performance as important variables impacting overall happiness at the zoo. Efforts are needed to improve the zoo environment and animal care. Various educational programmes must be established to optimise zoos' intrinsic nature and quality to increase visitor satisfaction levels (Lee, 2015). The zoo must execute a marketing and pricing plan to guarantee visitors visit the zoo. Pricing is a critical component of a company's immediate revenue recovery plan.

Price executives should focus on three most critical areas: being innovative in fulfilling customer requirements while retaining value, driving great pricing discipline, and investing aggressively in future capabilities (Abdelnour *et al.*, 2020). Tourists will return to a vacation location if the region provides safe, affordable, pleasant, and well-equipped transit amenities. The friendliness of the locals is another element that impacts the number of repeat visitors to a tourist location (Ling & Mapjabil, 2012).

The surroundings of animal-based tourism attractions are crucial in generating a memorable visitor experience. For example, zoos are generally linked with entertainment and recreational activities. Furthermore, zoos aid in teaching the public about biodiversity conservation and environmental education. Numerous essential elements must be considered for a zoo to be effective and sustainable (Rashid *et al.*, 2021). Exposure to and interactions with zoo animals, exhibit design and things inside the exhibit area such as signs, enrichment items, and feeding stations may impact visitor impression.

Furthermore, public programs around the exhibit, visitors' capacity to engage with volunteers and staff, and preconceived assumptions about specific behaviours such as pacing and other possible stereotypical activities imply the animal's general well-being. These factors could increase or decrease respect and admiration for zoo animals and the organisations caring for them. The presence of a zoo animal and its behaviours affect visitor behaviour (Godinez & Fernandez, 2019). Zoos are vital educational institutions for future generations' environmental education.

Besides, focusing on information acquisition and attitude change is essential since these elements substantially affect environmental behaviour. Their promotion helps achieve the main goal: behavioural transformation to pro-environmental behaviours (Kleespies *et al.*, 2020). According to Thompson (2020), the educational advantages of a pleasant family day at the zoo extend beyond curious responses and help youngsters acquire a wide range of critical

abilities essential for their overall development. Parents should continue reading to learn about the top five educational advantages of taking children to the zoo, from boosting their speech and language abilities to enabling them to explore their senses. Furthermore, the cornerstone of a sanctuary-based model is not display or breeding for all intents and purposes, both of which are forbidden, but rather the individual animals' well-being (Kagan *et al.*, 2018).

Methodology

Zoo Rabbitland, situated in the heart of the Jengka Segitiga region in the State of Pahang, is the first zoo of its kind, approximately 165 km from the city centre of Kuala Lumpur. Funded entirely by private investment from a local entrepreneur, this establishment seamlessly integrates the oil palm farming landscape with a zoo garden concept. Commencing operations on 1st March 2020, during the COVID-19 pandemic, Zoo Rabbitland is home to nearly 60 animal species spread across fifty acres of land adjacent to the main road of FELDA Jengka 14. In contrast to other zoos, Rabbitland operates entirely on self-generated capital without assistance from the state government or local agencies. This makes it a particularly suitable research site for examining visitors' perspectives on the capabilities of a rural private zoo and the zoo management's strategies for meeting visitor expectations and remaining competitive. The findings of this study have the potential to inspire not only the existing rural zoo operators but also the management of Rabbitland itself to identify the zoo's unique offerings and address attributes that fully align with the needs of contemporary visitors.

To achieve the study objective, an online survey was initiated to generate raw data measuring different service performance aspects based on the zoo literature context. The survey questions included the respondents' demographic information, including questions on their favourite animals and the best spots in the zoo. Furthermore, besides the questions on

the service performance dimension, one final section was allocated for an open-ended question for the respondents to provide suggestions for improvement of current zoo services. The service attributes of zoo performance were adapted from Lee (2015), ranging from five questions from accessibility, supply of information, comfort amenities, animal welfare and ease of observation.

The respondents were selected based on previous zoo visits and were asked to rate the service attributes using a five-point Likert scale (1 = strongly disagree to 5 = strongly agree). The scale reliability of the instrument showed a value of 0.94, which denotes excellent based on the recommended threshold value (Cronbach alpha > 0.60) to be considered acceptable (Nunnally, 1978). In addition, the face and content validation of the questionnaire was evaluated before its usage to ensure its relevance, clarity, meaningfulness, and completeness by two academic experts in tourism marketing and management, respectively (Khan, 2003). Due to the pandemic and active enforcement of MCO, the research fully capitalised on the advantage of

using online surveys that are convenient to reach sample populations and an appropriate approach for conducting a descriptive study (Nayak & Narayan, 2019). The respondents were asked to indicate their last visit to the zoo to ensure unrepresentative sampling or issues about the unintended population.

Only respondents who visited the zoo during the last twelve months were included in the study. Furthermore, ethical consideration was upheld to ensure that survey participation was voluntary. The approval to conduct the study was obtained from the university research ethics committee. After three weeks of locating the respondents through social media platforms, including posting the survey form via the zoo's official Facebook and Instagram accounts, 81 responses were finally obtained for analysis.

Result and Discussion

Table 1 shows 81 respondents who have visited Mini Zoo Rabbitland Jengka from 2020 onwards. Most are female (72.80%), while the remaining (27.20%) are male. Most respondents are adult

Table 1: Demographic profile

Demographic Variable	Frequency (N)	Percentage (%)
Gender		
Male	22	27.20
Female	59	72.80
Age		
Young visitors	20	24.70
Adult visitors	61	75.30
Marital Status		
Single	16	19.80
Married	65	80.20
Employment		
Public Sector	49	60.50
Private Sector	12	14.80
Self-employed	7	8.60
Unemployed	13	16.10
Education Level		
Higher Education	66	81.50
Intermediate Education	13	16.00
Lower Education	2	2.50
Household Income		
< RM 4000	42	51.90
> RM 4001	39	48.10

visitors (75.30%) and the remaining are younger visitors (below 30 years old). The findings of this study are in line with Shuib *et al.* (2012) and Hashim *et al.* (2018), that the majority of visitors were adults in their respective studies. Additionally, most respondents are married (80.20%). Most respondents are public sector employees (60.50%), and 8.60% are self-employed. In addition, most respondents received a household income of more than RM4000 per month and received higher education (81.50%), indicating that the respondents look forward and enjoy leisure activities. The findings of Shuib *et al.* (2012), which indicated that over 74% of conservation tourism visitors were from a higher education level are consistent with this trend.

As shown in Table 2, a zoo is an ideal place for family bonding activities. Therefore, most respondents (88.9%) make zoo trips with their family members. This result is consistent with the findings of Yee *et al.* (2018), who discovered that 83.2% of visitors to the Giant Panda Conservation Centre (GPCC), Zoo Negara, Malaysia, visited with their families. Besides, a zoo can also be

an enjoyable retreat with friends. Approximately 11.10% of the respondents visited the zoo with their friends. Due to pandemic restrictions, visitors sharply declined as the zoo closed temporarily. Subsequently, 38.30% of the respondents visited the zoo in the last year, 27.20% in the last six months and only 3.70% visited the zoo in the last one to three months.

Table 2 also displays many types of animals and attractive spots or landscapes in the Mini Zoo Rabbitland. Most respondents visit the zoo for leisure (37.60%), followed by personal reasons to support local tourism business (19.90%). Some visited the zoo to release stress (19.30%), while some took an educational vacation (13.80%). About 7.20% spent their time at the zoo for family vacations. Interestingly, 38.50% of respondents who visited the zoo chose pets as their most preferred animals, and 21.50% enjoyed the experience in Hobbit House. The summary of significant zoo attractions based on the respondents' choices is shown in Table 2 and some of the main interesting zoo landscapes are shown in Figure 1.

Table 2: Profiling Zoo Attraction

	Frequency (N)	Percentage (%)
Reason for Visit		
Leisure	68	37.60
School Vacation	25	13.80
Family Vacation	13	7.20
Stress Release	35	19.30
Local Business Support	36	19.90
Others	4	2.20
Last time Visit		
Last 3 months	3	3.70
Last 6 months	22	27.20
Last 12 months	31	38.30
More than a year	25	13.80
Trip Companion		
Family	72	88.90
Friends	9	11.10
Preferred Animals		
Pets Animal	60	38.50
Safari Animal	47	30.10
Birds	45	28.80
Others	4	2.60

	Frequency (N)	Percentage (%)
Favourite Spot		
Hobbit House	55	21.50
Rabbitland Tower	54	21.10
Herbs Garden	33	12.90
Playground	32	12.50
Fishing	28	10.90
Cactus Garden	23	9.00
Archery	16	6.30
Paintball	13	5.10
Other	2	0.70



1(a) One of the interesting spots for a family photoshoot



1(b) Herb Garden cultivated with various species of local herb plants



1(c) Indoor playgrounds in a shady space



1(d) A family photo in front of the Rabbitland Garden



1(e) Some of the livestock animals placed in the zoo



1(f) Deer are among the wild animals that can be seen in the zoo

Figure 1: Some of the major attractions to describe Rabbitland Zoo in Jengka, Pahang

Service Performance

This section analyses the results of service performance based on five dimensions: display performance, animal welfare performance, information performance, amenities performance, and accessibility/price performance. Table 3 displays the result of the service and facilities performance evaluation of Mini Zoo Rabbitland Jengka on display performance dimension. The respondents agreed with the statement, “The path provided to see the animals is easy”, with the highest mean of 4.21 (Standard Deviation (SD) = 0.74). They also agreed with the statement “Clear information related to exhibited animals are displayed,” with a mean score of 4.06 (SD = 0.80) and followed by the statement “Signboards are easily visible to visitors,” with a mean score of 4.04 (SD = 0.73). This result demonstrates that Mini Zoo Rabbitland Jengka has prioritised display performance, as it is essential for zoo operators to provide information to visitors (Rashid et al., 2021).

Table 4 shows the results on the animal welfare dimension. The highest mean score for this dimension is on the statement, “The welfare and well-being of animals are emphasised,” with a score of 3.96 (SD = 0.94). Besides, above 50% of respondents agreed, “The natural

behaviour of animals is always taken care of by the management” (Mean = 3.95, SD = 0.79). Similarly, the statement “The management of Rabbitland Jengka provides a large cage” has a mean of 3.93 (SD = 0.93). These results indicate that Mini Zoo Rabbitland Jengka management has made significant efforts to ensure good animal welfare, as zoo visits may be perceived negatively if visitors believe that animal welfare is neglected (Rashid et al., 2021).

Table 5 describes the results of the Mini Zoo Rabbitland Jengka evaluation on the information or education dimension. This finding shows that the highest mean score for this dimension is “Animal’s information signage is provided systematically”, with a mean score of 3.67 (SD = 0.87), and the lowest mean score is for the statement “Educational programmes are provided to the visitors” with mean score 3.27 (SD = 1.07). These findings align with those published by Hashim et al. (2018) and Rashid et al. (2021), that animal-based attractions could gain an edge by strategically manipulating information performance measures like layout, design, signage, and educational programmes.

Table 6 indicates the result of the evaluation of Mini Zoo Rabbitland Jengka on the amenities dimension. The respondents agreed with the statement “Landscape provided at the zoo is

Table 3: Descriptive statistics on the level of display performance (valid per cent)

Do you agree?	1	2	3	4	5
Signboards are easily visible to visitors (Mean = 4.04; SD = 0.73)	0 (0.00%)	2 (2.50%)	14 (17.30%)	44 (54.30%)	21 (25.90%)
The path provided to see the animals is easy (Mean = 4.21; SD = 0.74)	0 (0.00%)	1 (1.20%)	12 (14.80%)	37 (45.70%)	31 (38.30%)
Clear information related to exhibited animals is displayed (Mean = 4.06; SD = 0.80)	0 (0.00%)	3 (3.70%)	14 (17.30%)	39 (48.10%)	25 (30.90%)
Animal-related information displayed is child-friendly (Mean = 3.79; SD = 0.82)	0 (0.00%)	4 (4.90%)	25 (30.90%)	36 (44.40%)	16 (19.80%)
Diversity of species is displayed (Mean = 3.98; SD = 0.90)	0 (0.00%)	4 (4.90%)	21 (25.90%)	29 (35.80%)	27 (33.30%)

*Note – 1 “strongly disagree”, 2 “disagree”, 3 “uncertain”, 4 “agree”, 5 “strongly agree”

Table 4: Descriptive statistics on the level of animal welfare performance (valid per cent)

Do you agree?	1	2	3	4	5
The natural behaviour of animals is always taken care of (Mean = 3.95; SD = 0.79)	0 (0.00%)	2 (2.50%)	21 (25.90%)	37 (45.70%)	21 (25.90%)
The welfare and well-being of animals are emphasised (Mean = 3.96; SD = 0.94)	1 (1.20%)	6 (7.40%)	13 (16.00%)	36 (44.40%)	25 (30.90%)
Natural enclosures are provided by the zoo management (Mean = 3.86; SD = 0.88)	1 (1.20%)	4 (4.90%)	19 (23.50%)	38 (46.90%)	19 (23.50%)
A large cage is provided by zoo management (Mean = 3.93; SD = 0.93)	0 (0.00%)	7 (8.60%)	17 (21.00%)	32 (39.50%)	25 (30.90%)

*Note – 1 “strongly disagree”, 2 “disagree”, 3 “uncertain”, 4 “agree”, 5 “strongly agree”

Table 5: Descriptive statistics on the level of information performance (valid per cent)

Do you agree?	1	2	3	4	5
Professional guides are provided to the visitors (Mean = 3.46; SD = 1.04)	2 (2.50%)	12 (14.80%)	29 (35.80%)	23 (28.40%)	15 (18.50%)
Animals’ information signage is provided systematically (Mean = 3.67; SD = 0.87)	1 (1.20%)	5 (6.20%)	27 (33.30%)	35 (43.20%)	13 (16.00%)
The supply of information about the animals on display is acceptable (Mean = 3.58; SD = 0.92)	1 (1.20%)	7 (8.60%)	31 (38.30%)	28 (34.60%)	14 (17.30%)
Educational programmes are provided to the visitors (Mean = 3.27; SD = 1.07)	4 (4.90%)	14 (17.30%)	31 (38.30%)	20 (24.70%)	12 (14.80%)
The staff at the zoo are friendly (Mean = 3.54; SD = 1.01)	3 (3.70%)	6 (7.40%)	32 (39.50%)	24 (29.60%)	16 (19.80%)

*Note – 1 “strongly disagree”, 2 “disagree”, 3 “uncertain”, 4 “agree”, 5 “strongly agree”

interesting”, with the highest mean of 3.80 (SD = 0.97). They also agreed with the statement, “A place to sit and rest is comfortable and adequate”, with a mean score of 3.73 (SD = 1.03). This finding is consistent with the findings of Yee *et al.* (2018) that 94.8% of respondents are satisfied or very satisfied with the comfort of the zoo environment, given that the level of amenity performance, such as an interesting landscape and a comfortable environment, is

crucial for attracting more visitors and creating a competitive advantage for zoo operators. The lowest mean score for this dimension is 3.36 (SD = 0.98) for the statement “A convenience shop is provided”.

Table 7 shows the results of the Mini Zoo Rabbitland Jengka evaluation on the accessibility or price dimension. Based on the findings, most respondents agreed with “Easy to access Rabbitland Jengka”, with the highest

Table 6: Descriptive statistics on the level of amenities performance (valid per cent)

Do you agree?	1	2	3	4	5
A place to sit and rest is comfortable and adequate (Mean = 3.73; SD = 1.03)	0 (0.00%)	0 (0.00%)	5 (6.20%)	37 (45.70%)	39 (48.10%)
A convenience shop is provided (Mean = 3.36; SD = 0.98)	1 (1.20%)	2 (2.50%)	16 (19.80%)	38 (46.90%)	24 (29.60%)
Restroom is clean (Mean = 3.44; SD = 0.88)	0 (0.00%)	5 (6.20%)	18 (22.20%)	33 (40.70%)	25 (30.90%)
The landscape at the zoo is interesting (Mean = 3.80; SD = 0.97)	2 (2.50%)	5 (6.20%)	39 (48.10%)	25 (30.90%)	10 (12.30%)

*Note – 1 “strongly disagree”, 2 “disagree”, 3 “uncertain”, 4 “agree”, 5 “strongly agree”

Table 7: Descriptive statistics on the level of accessibility/price performance (valid per cent)

Do you agree?	1	2	3	4	5
Access to the zoo is easy (Mean = 4.42; SD = 0.61)	0 (0.00%)	0 (0.00%)	5 (6.20%)	37 (45.70%)	39 (48.10%)
The size of the zoo is suitable (Mean = 4.01; SD = 0.84)	1 (1.20%)	2 (2.50%)	16 (19.80%)	33 (40.70%)	24 (29.60%)
The admission fee is reasonable (Mean = 3.96; SD = 0.89)	0 (0.00%)	5 (6.20%)	18 (22.20%)	33 (40.70%)	25 (30.90%)

*Note – 1 “strongly disagree”, 2 “disagree”, 3 “uncertain”, 4 “agree”, 5 “strongly agree”

mean score of 4.42 (SD = 0.61). Besides, more than 50% of the respondents agreed with the statement “Suitable mini zoo size,” with a mean score of 4.01 (SD = 0.84). The admission fee for Mini Zoo Rabbitland Jengka is also reasonable, with a mean score of 3.96 (SD = 0.89). The findings are consistent with those of Shuib *et al.* (2012), that tourists, especially those with higher incomes, are prepared to spend more to support conservation efforts in the tourism industry. In addition, Abdelnour *et al.* (2020) also mentioned that the price aspect is vital for zoo management to be innovative in providing consumer expectations while keeping value, driving strong pricing discipline, and investing in future capacities.

Results in Table 8 show the overall mean for the service performance level of Rabbitland Jengka. The highest mean score is accessibilities or price dimension, with a mean score of 4.13 (SD = 0.64). The second highest quality performance level of Rabbitland Jengka is the display dimension, with a mean score of 4.01 (SD = 0.61), followed by the animal welfare dimension, with a mean score of 3.95 (SD = 0.79). The fourth level of the Rabbitland Jengka quality dimension is the amenities dimension, with a mean score of 3.58 (SD = 0.82). The lowest level is the information or education dimension, with a mean score of 3.50 (SD = 0.85).

Table 8: Level of service performance at Zoo Rabbitland Jengka

Performance Indicator	Frequency (N)	Mean (SD)	Rank
Accessibilities/Price	81	4.13 (0.64)	1
Display	81	4.01 (0.61)	2
Animal Welfare	81	3.95 (0.79)	3
Amenities	81	3.58 (0.82)	4
Information/Education	81	3.50 (0.85)	5

Discussion and Management Implications

The results revealed that Mini Zoo Rabbitland Jengka had the best service performance in the accessibility or price dimension, with a mean = 4.13 and SD = 0.64. Most respondents (93.8%) agreed with “Easy to access Rabbitland Jengka”. The mini zoo is situated on the main road to Bandar Pusat Jengka Pahang, enabling convenient accessibility through all land transport modes. The accessibility ease concerns the government’s initiative to improve the road infrastructure, helping to increase economic activity in the Jengka region and encourage local tourism activities. The study findings align with the findings of previous studies, which revealed that accessibility is a crucial factor in determining a zoo’s success (Mason, 2007; Taylor & Duram, 2021). Regarding price, only 6.2% of respondents disagreed with the statement, “The admission fee charged is reasonable”. Most respondents (71.6%) agreed that the ticket price is appropriate and should be maintained to encourage more tourists, particularly middle-income local visitors. The findings are parallel to Ling and Mapjabill (2012), Taplin (2012) and Veisten *et al.* (2012), indicating that affordable ticket prices can boost the number of visitors to a zoo, enhancing the zoo’s long-term sustainability.

The second highest service performance level of Mini Zoo Rabbitland Jengka is display dimension with mean = 4.01 and SD = 0.61. According to the survey results, 84% of respondents agreed, “The path to see the animals is easy.” Thus, the zoo management has succeeded in providing a path to get a closer look at the animals. This item is essential because it allows visitors, particularly children, to look closely at the displayed animals. Furthermore, more than 70% of respondents agreed with “Clear information related to exhibited animals are displayed” and “Signboards are easily visible to visitors”. These items in this display dimension demonstrated that the zoo management has successfully created a good dimension display to provide and convey information to visitors about the animals on display. In turn, visitors

can gain a better understanding of animals they may not have known previously.

The study findings are consistent with Godinez and Fernandez (2019), which revealed that the display dimension is vital in zoo management to improve visitors’ knowledge and understanding. However, the study findings suggested that management should pay greater attention to providing information grasped easily by children. The action should be taken because the statement “Animal-related information displayed is child-friendly” received the lowest mean score of 3.79. Hence, zoo management should improve the display of information provided to be child-friendly by utilising easy terms, symbols, or images easier for children to capture, recognise and understand to learn about the animals.

With a mean = 3.95 and SD = 0.79, the animal welfare dimension demonstrates the third most important level of service performance in Mini Zoo Rabbitland Jengka. The results showed that more than 70% of the respondents agreed with three statements stated in the animal welfare dimension, including:

- i) “The welfare and well-being of animals is emphasised”,
- ii) “The natural behaviour of animals is always taken care of by the management”, and
- iii) “The management of Rabbitland Jengka also provides a large cage”.

However, the statement “Natural enclosures provided by the management of the mini zoo” shows the lowest mean score for the welfare dimension, with a mean = 3.86.

Therefore, the zoo management should consider improving this aspect occasionally. Nevertheless, providing a natural enclosure for a mini zoo is more complicated than providing one for a large zoo due to limited space. Perhaps the management of the mini zoo can use unexplored areas to provide a natural enclosure that can create the original habitat atmosphere for the animal. The animal welfare dimension is vital to be given attention by zoo management (Rashidi

et al., 2021) as healthy animals can attract more zoo visitors. Concurrently, it can reduce costs in the long run, such as animal treatment and repurchasing exhibition animals to replace ill or dead animals.

Nonetheless, the study findings revealed that Zoo Rabbitland Jengka needs to emphasise service performance in the amenities dimension since the mean = 3.58 and SD = 0.82. The cleanliness of the toilets and the quality of the convenience stores provided did not satisfy more than half of the respondents. The management must increase the number of toilets and improve toilet hygiene quality because it is the most critical aspect of the amenities for visitors' convenience. In addition, convenience stores' service performance can be further improved to make it easier for consumers to purchase drinks, snacks and souvenirs. In the future, the zoo management can also provide a restaurant or café with a food truck concept for visitors.

However, most respondents (53%) agreed that the "Landscape provided at the zoo is interesting". The many new landscapes further reinforce this finding the zoo management provides to attract more visitors, such as Herbs Garden, Hobbit House, Rabbitland Tower, Cactus Garden, Playground, and many others. The visitors can capture memorable pictures in exciting places. This is a good effort by the zoo management because the amenities provision is essential for the zoo provider to provide comfort to visitors and, in turn, can increase the number of visitors (Whitworth, 2012).

The lowest service performance level of Zoo Rabbitland is the information or education dimension with a mean = 3.50 and SD = 0.85. This dimension considers the extent to which the zoo management tries to convey information related to the animals on display through methods, activities or educational programmes. 60.5% of respondents disagreed and were unsure of the statement "Educational programmes are provided to visitors". Thus, the management needs to increase animal-related education programmes, especially for children and school students. For instance, special packages can be

provided for groups of school students or visitors through ticket price savings, group activities in the zoo area and tour guides who can provide guidance and information during the tour. These initiatives can indirectly increase the number of visitors to Zoo Rabbitland, especially local students and tourists from outside Pahang.

Although this dimension had the lowest mean score of all the dimensions studied to evaluate the level of service performance of Zoo Rabbitland, the majority of respondents (51.9 %) agreed with the statement, "Supply of information about the animals on display is acceptable." However, the zoo management can still improve, as providing accurate information is critical to giving visitors a thorough understanding. In addition to bringing their family for leisure, they can also add knowledge about the animals, which is significant for children experiencing their first time seeing some species. The findings are aligned with Thompson (2020), who found that the information or education dimension is essential for zoo management to attract more visitors and enhance their understanding of animals.

Conclusion

From the results of this study, the findings suggest that factors ranging from the most to the least of visitor satisfaction with Zoo Rabbitland are accessibility or price, display, animal welfare, and amenities, followed by information or education. According to Karanikola et al. (2020), the zoo provides exposure to animals for visitors. Most visitors agreed that all the displayed information related to animals is beneficial in identifying the animals for adult visitors but not for children. Hence, the administration can provide digital or electronic information in video or easily understandable form for children because the study found that many visitors visited Zoo Rabbitland with families including children.

The study also found that most visitors agreed that the welfare and well-being of animals are also crucial. When these are adequately taken care of, many visitors can be attracted,

and some costs can be saved, such as medical costs. Besides the welfare and well-being of animals, the facilities provided are also one of the aspects of attracting visitors. In addition to providing a beautiful landscape, basic facilities such as toilets should be emphasised to be easily accessible and user-friendly to visitors.

Concurrently, the management can also focus more on information or education. This aspect can help increase the number of visitors to ensure that they enjoy coming and bringing their children to see the animals for themselves. In addition, the visits also add knowledge to children. The management is advised to provide a tour guide or presenter to guide or tour the visitor. Zoo management is instructed to improve the overall dimensional aspect and focus more on the lowest to the highest dimensional aspect to increase the number of visitors. The recent increase in public interest in the role of zoos as educational and conservation centres are expected to encourage more research on the demands and satisfaction of zoo visitors.

As an important social and community gathering place where individuals and families experience and spend their time together, any improvements to this place will also contribute to the overall pleasure of Jengka residents. The study findings are anticipated to provide some suggestions as the stepping stones needed to help Rabbitland be successful. Besides focusing on a performance improvement strategy, the zoo must include sustainability planning as part of its strategic management as the tourism industry is progressing towards meeting global sustainability goals (Giannoukou & Beneki, 2018; Magalhaes *et al.*, 2014). Another aspect that needs attention is incorporating local cultures and values involving the visitors' engagement and participation to encourage loyalty visits (Jiang *et al.*, 2014; Sharma, 2019).

The study has several limitations which provide opportunities for further research. First, the study data were collected only from the visitor's side. Nevertheless, evaluating this research from the employees' and workers' standpoint is also necessary. Employees and

workers have different understandings of the inner operations of how Zoo Rabbitland Jengka is managed. Thus, they will provide invaluable insights for this research. Another viewpoint that could be added to this study is experts' opinions in related fields. A broader source of experts' perspectives leads to more areas of improvement that can be explored and discovered. Finally, the timing of this study was during the COVID-19 pandemic when public movement was restricted, which in turn affected the amount and type of visitors. Further research can be carried out when the movement restrictions are eased or removed. Thus, a more diversified background of visitors can be included as potential research subjects.

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