Economic and Technology Management Review, Vol. 23(2024): 1 – 12

Profitability assessment of broiler farming in Peninsular Malaysia

(Penilaian keuntungan penternakan ayam pedaging di Semenanjung Malaysia)

Nor Amna A'liah Mohammad Nor[1, 2], Mark Buda[1*], Norhariani Mohd Nor[3], Kelly Wong Kai Seng[1], Juwaidah Sharifuddin[1] and Syahrin Suhaimee[2]

Keywords: production cost, profitability, input-output ratio

Abstract

The demand for broiler meat in Malaysia remains consistently high, making it crucial to regularly evaluate industry challenges to maintain competitiveness and ensure sustainability. Despite the strong demand, there are persistent issues related to cost management and profitability in broiler farming. Existing studies indicate that rising feed costs and market fluctuations have significantly impacted profitability, necessitating updated analyses to reflect the current economic landscape. This study addresses these needs by assessing farmers' financial status, production costs, total net income and input-output ratios in broiler production across Peninsular Malaysia. Using a stratified random sampling method, data from 241 broiler farms were analysed to provide insights into current cost structures and profitability challenges faced by the industry. Descriptive statistics and farm budgeting served as the primary analytical tools. Findings revealed that farmers in Peninsular Malaysia face significant challenges related to high production costs primarily driven by volatile feed prices. The study shows that feed costs constitute the largest proportion of total production expenses, underscoring their critical role in influencing profitability. Despite these challenges, the industry maintains a marginal profit margin, as indicated by an input-output ratio of 1.03. This signifies that for every RM1.00 spent on production, RM1.03 is earned in revenue, highlighting the industry's ability to achieve slight profitability under current economic conditions. Overall, the study highlights the importance of managing production costs to improve profitability and sustainability in broiler farming across Peninsular Malaysia.

Introduction

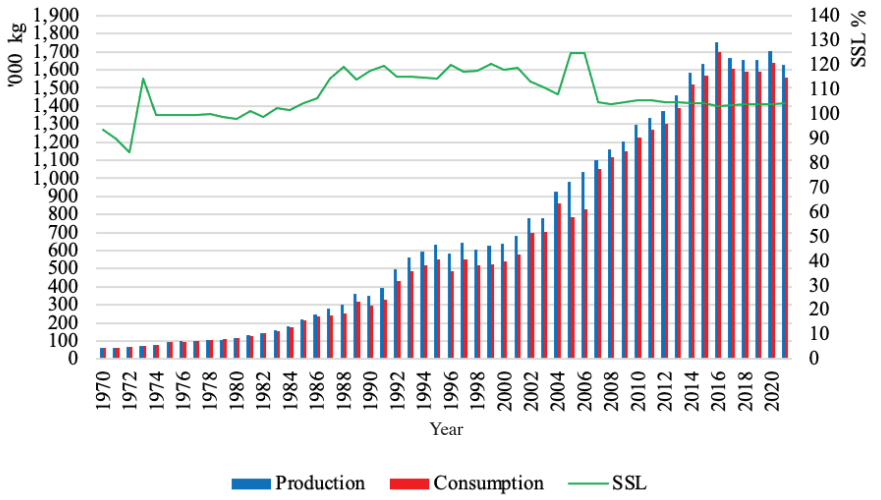
In Malaysia, poultry is a crucial source of protein and plays a significant role in improving incomes, as it offers a short time to market compared to other livestock species. As of 2022, Malaysia ranked 21st globally and was the third-largest producer in Southeast Asia for chicken (Food and Agriculture Organization 2024). The poultry industry significantly contributes to Malaysia's agricultural gross domestic product (GDP), accounting for approximately 0.8% of the national GDP at the current price in 2021 (Department of Statistics Malaysia 2024). This contribution underscores the sector's role in ensuring food security and supporting Malaysia's economic growth.

[1]Department of Agribusiness and Bioresource Economics, Faculty of Agriculture, Universiti Putra Malaysia
[2]Socio-Economy, Market Intelligence and Agribusiness Research Centre, MARDI Headquarters, 43400 Serdang, Selangor, Malaysia
[3]Department of Veterinary Pre-Clinical Science, Faculty of Veterinary Medicine, Universiti Putra Malaysia
e-mail: markbuda@upm.edu.my

The industry has seen rapid expansion fueled by rising demand for chicken meat and associated products, as illustrated by increasing production and consumption trends in *Figure 1*. Since the 1970s, Peninsular Malaysia's broiler sector has transformed from small-scale backyard operations into a modernised industry capable of satisfying domestic needs and exporting to neighboring markets like Singapore, Brunei, and Thailand (United Nations Statistics Division 2021).

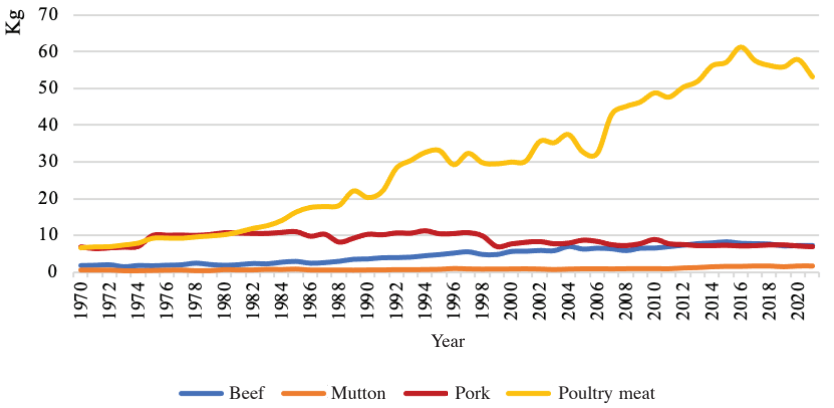
Figure 1 shows the level of self-sufficiency (SSL), production, and consumption of chicken meat in Peninsular Malaysia from 1970 to 2021. Initially, Peninsular Malaysia reached the level of self-sufficiency in chicken meat production in 1973, 1978 and 1981. However, from the year 1983 onwards, the SSL consistently remained above 100%. This shows that production has consistently exceeded domestic needs. This growth and performance of the broiler industry are largely driven by private sector initiatives. The industry's development has been significantly influenced by advancements in research and development (R&D), the adoption of advanced poultry equipment, premium poultry feed, and effective vaccines. These private-led advancements have markedly improved production efficiency and contributed to the overall success of the broiler industry.

This industry is pivotal to Malaysia's agricultural sector, contributing substantially to economic growth and food security. Over the past several decades, broiler meat consumption has consistently increased, with per capita consumption rising from 6.67 kg in 1970 to 53.1 kg in 2021 (DVS 2024). This trend, as illustrated in *Figure 2* reflects a significant shift in meat consumption patterns, as affluent consumers increasingly adopt higher protein-based diets, moving away from rice as a staple food. This shift underscores the growing demand for broiler products, affirming their role as a primary and affordable protein source across diverse communities (Abdurofi et al 2017). The rise in consumption is driven by changing dietary preferences and increased purchasing power, highlighting the broiler industry's critical role in meeting the evolving nutritional needs of Malaysia's population.



(Source: Malaysia Department of Veterinary Services)

Figure 1. Poultry meat self-sufficiency level (SSL), production and consumption (1970 – 2021) in Peninsular Malaysia



(Source: DVS)

Figure 2. Livestock meat per capita consumption, 1970 – 2021 in Peninsular Malaysia

However, the broiler industry faces several challenges that impact its performance. One of the primary issues is the escalating cost of production. Feed, which constitutes a significant portion of the total production cost, has seen price increases due to global supply chain disruptions and local market conditions (Abdurofi et al. 2017; Shaban & Alabboodi, 2019; Azizi et al. 2021). The cost of feed ingredients such as corn and soybeans has been particularly volatile, influenced by international price and trade policies as well as climate conditions (Anderson, 2022). Additionally, rising expenses related to labour, energy and veterinary care further strain the financial resources of broiler farmers.

Furthermore, external factors such as the COVID-19 pandemic have exacerbated challenges in the broiler industry. The pandemic disrupted global supply chains critical to the broiler industry in Malaysia, resulting in increased logistics costs, export barriers, shortages of farm labour and supply deficiencies (Ijaz et al. 2021; Tortajada and Lim 2021). This disruption indirectly raised prices for essential inputs like grain corn and soybeans, significantly increasing broiler production costs (OECD, 2022). Consequently, this has resulted in narrower profit margins between production costs and ex-farm selling prices. The impact of these cost increases is more pronounced for small-scale broiler farmers, who often lack the financial resilience and operational efficiencies of larger firms. Large firms can better manage these costs due to their ability to benefit from economies of scale and more substantial financial resources. In contrast, small-scale farmers face greater challenges in overcoming these cost increases, potentially exacerbating their financial difficulties.

Isa et al. (2019) in their study emphasised the vital role of profitability in sustaining Malaysia's broiler industry. They point out that if the industry operates at a loss, many firms may exit, leaving the industry dominated by a few large firms. This situation could lead to higher prices for broiler meat, making it less affordable as a protein source (Isa et al. 2019). This perspective underscores the necessity of maintaining a diverse base of small-scale producers to ensure that food remains affordable and accessible in Malaysia.

Previous studies have underscored the significance of profitability in broiler farming for ensuring a sustainable supply of broiler meat in Malaysia. Tangendjaja (2013) highlights that managing high feed costs and making strategic investments are critical for the survival and profitability of broiler farmers. Similarly, Bandara and Dassanayake (2006) emphasise that long-

term sustainability depends on generating income that exceeds operational costs. This aligns with Widiati et al. (2019), who discuss how profitability impacts decisions on production efficiency and cost management.

Moreover, the industry's profitability directly impacts its resilience and competitive landscape. Isa et al. (2019) state that consistent profitability prevents market distortions and ensures a sustainable market environment. Effective management of production factors such as feed quality and costs, medication, vaccinations, labor expenses, transportation, and housing systems is imperative for sustaining profitability in broiler farming operations (Abdulrofi et al. 2017; Shaban and Alabboodi 2019; Isa et al. 2019). These factors require continuous monitoring and strategic planning to address challenges and optimise financial performance.

Given these challenges, it is crucial to evaluate broiler production performance using current data, especially considering industry changes post COVID-19. This paper aims to assess the financial performance of broiler farming in Peninsular Malaysia by utilising budgeting analysis techniques such as enterprise budgeting. This approach will help identify key cost components, optimise production factors, and enhance profitability for broiler farmers.

Methodology

Data collection

This research employed structured questionnaires to collect data for broiler operations in Peninsular Malaysia during the 2023 production cycle. Using a stratified random sampling method, the study gathered detailed data from 241 broiler farms out of the 2,222 registered farms in Peninsular Malaysia (DVS 2021). This sample represents more than 10% of the total population of broiler farms, ensuring representation across various regions and operational scales.

The sampling was initially stratified across geographical regions within Peninsular Malaysia, covering 10 states such as Selangor, Perak, Johor and others (excluding Perlis). Each state served as a distinct stratum to capture regional variations in farming practices and market conditions. Then, farms were categorised by size which is small (less than 10,000 birds/cycle), medium (10,000 – 49,999 birds/cycle), and large (50,000 birds or more/cycle) scales. This categorisation follows the classification used by the Department of Statistics Malaysia in the *Laporan Kajian Khas Kos Pengeluaran Ayam dan Telur* 2022 (Department of Statistics Malaysia, 2022), and is further confirmed by the Department of Veterinary Services Malaysia. From each size category within each state, farms were then randomly selected to ensure that the sample represented the different operational scales within the broiler industry.

The survey was conducted in collaboration with Malaysia's Department of Veterinary Services to ensure accuracy and compliance with industry standards. This partnership facilitated the selection and verification of farms across different states and ensured comprehensive data collection. The collected data comprised essential variables crucial for a comprehensive analysis, including the quantity and price of feed utilised, medicine expenses, chicken production metrics, business scale indicators, labour costs, farming experience, and the net revenue generated by the farmers.

Approval for ethical consideration with ID No. JKEUPM-2023-1167 was obtained from the ethics committee at the University Putra Malaysia, demonstrating a commitment to upholding ethical standards throughout the research process.

Data analysis

This study utilised descriptive statistics and basic profitability analysis as its primary analytical tools. Descriptive statistics were used to summarise data,

presenting it in tabular farm and numerical figures to provide a clear overview. The descriptive data comprised the gender, age, education level, farm experience, scale of the broiler business, training attended, housing system, and farm status. Further, profitability analysis for this research was conducted through farm budgeting. This method evaluates the profitability of broiler production by analysing key components such as production costs, revenue generation, and overall farm profitability. Specifically, the research utilised a farm budgetary technique to calculate economic indicators such as fixed cost, variable cost, net return, and input-output ratio. This method allowed for a detailed examination of the production background and economic performance of broiler farms.

a) Production cost analysis

This analysis examines production costs categorised into fixed costs and variable costs. Fixed costs are costs that must be borne by the farmer whether broiler production occurs or not. It includes expenses that do not vary with production levels. These costs include ownership expenses related to buildings, machinery and equipment that are prorated over several years. Besides, variable costs encompass production costs or operational inputs that vary with the level of output produced by farmers (Debertin 2012). These costs include the price of day-old chicks (DOC), the cost of broiler feed and expenses for vaccines and medications required to maintain the heath of the flock. Additionally, variable costs cover operational necessities such as utilities and labour, which are directly linked to the day-to-day operations of the farm.

Mathematically, the total production cost (TC) can be expressed as:

$TC = TFC + TVC$

Where:

TC = Total cost (RM/farm/cycle),
TFC = Total fixed costs (RM/farm/cycle)
TVC = Total variable costs (RM/farm/cycle).

In this study, the total fixed costs (TFC) were calculated by evenly allocating the expenses of fixed items over their useful lives using the straight-line depreciation method. After that, the total annual fixed costs were divided by the number of broiler cycles undertaken in that period to determine fixed costs per farm cycle. The fixed item in this study consists of the depreciation of the housing system, farming equipment, irrigation, disinfection room, generator, fence, and transportation. Meanwhile, total variable costs (TVC) comprise expenses such as day-old chicks (DOC), broiler feed, labour charges, medicines, vaccines, utilities and other related costs associated with broiler farms. Each of these costs is considered on a per-cycle basis.

b) Revenue analysis

Revenue in broiler farming is the total income generated from selling the products. It can be described using the formula:

$R = P \times Q$

Where:

R = Revenue (RM/farm/cycle),
P = Price (RM/kg),
Q = Quantity of production (kg/farm/cycle).

In the broiler farming business, applying the revenue analysis follows the general farming revenue formula, which is as follows:

$$TR = (Py_1.Q_1) + (Py_2.Q_2)$$

Where:

TR = Total revenue (RM/farm/cycle)
Py_1 = The ex-farm broiler price (RM/kg)
Q_1 = The number of broilers sold (RM/kg/farm/cycle)
Py_2 = The price of broiler dung (RM/sack)
Q_2 = The number of broiler dung sacks (RM/sack/farm/cycle)

This detailed revenue calculation helps capture the various income streams in broiler farming, including the primary output (broilers) and by-products (broiler dung).

c) Net return (NR) analysis

Net return (NR) is a key measure of profitability in broiler farming. It represents the income remaining after deducting all costs from the total revenue generated. It is calculated as the difference between total revenue (TR) and total cost (TC):

$$NR = TR - TC$$

Where:
NR = Net return (RM/farm/cycle)
TR = Total revenue (RM/farm/cycle)
TC = Total cost (RM/farm/cycle).

After subtracting total costs from total revenue, a positive net return indicates that the income generated from broiler farming operations exceeds the total costs incurred, showing that the operation is profitable. In contrast, a negative net return indicates that the costs of production exceed the revenue generated, resulting in financial losses for the farming operation.

d) Input-output ratio

In this study, the input-output ratio of broiler farming was also measured. The formula used to calculate the input-output ratio is:

$$\text{Input-Output Ratio} = \frac{\text{Output}}{\text{Input}}$$

Where output refers to the total revenue (TR) or value generated from broiler farming while input denotes the total costs of production (TC) incurred in broiler farming.

Results and discussion

Descriptive analysis

Understanding the socio-economic characteristics of broiler farmers in Peninsular Malaysia provides valuable insights into the industry's current dynamics. *Table 1* shows the broiler farm's descriptive analysis, which summarises data from a total of 241 respondents. The gender distribution among respondents reveals that 90% of broiler farms are operated by males, while females represent a smaller proportion at 10% of the sample. This suggests a lower level of female involvement in this sector.

The age distribution among broiler farmers shows that a significant majority which is approximately 68% of farmers are aged 41 years and above. This indicates a predominant presence of older individuals in the sector. This demographic composition suggests a significant lack of participation from Malaysian youth (aged 40 and below), who account for only 32% of the farmers. The less involvement of youth in broiler farming aligns with broader societal trends where younger individuals show a greater inclination towards industrial and services industries rather than agriculture (Nor et al. 2015). Furthermore, the capital-intensive nature of broiler production presents a significant barrier for younger individuals considering entry into the industry (Abdurofi et al. 2017). The high initial investment and ongoing operational costs may deter them from pursuing farming as a career path, opting instead for sectors perceived to offer more immediate financial rewards and career stability.

In terms of education attainment, the study reveals that 71% of broiler farmers have completed secondary education followed by 23% who possess tertiary educational levels and a small proportion (5%) hold primary school certificates. Concerning farming experience, 69% of respondents have over 10 years of experience in broiler production, with 40% having 11 – 20 years, 24% with 21 – 30 years and 5% having more than 30 years

Table 1. Socio-economic characteristics of broiler farmers in Peninsular Malaysia

Category	Number	Percentage%
Gender		
Male	217	90
Female	24	10
Age group		
Below 30	21	9
31 – 40	54	22
41 – 50	63	26
51 – 60	73	30
61 above	30	12
Education level		
No education	2	1
Primary	11	5
Secondary	172	71
Tertiary	56	23
Experience		
1 – 10 years	74	31
11 – 20 years	96	40
21 – 30 years	58	24
31 years above	13	5
Farm scale		
Small scale (<10,000)	31	13
Semi-commercial (10,000 – 49,999)	74	31
Commercial (>50,000)	136	56
Attended training		
Yes	102	42
No	139	58
Housing system		
Open system	129	54
Close system	112	46
Farm status		
Non-contract farming	83	34
Contract farming	158	66

Source: Survey data 2023

of experience. Farm scale categorisation discloses that 13% of farms operate on a small scale (less than 10,000 birds), 31% on a semi-commercial scale (10,000 – 49,999 birds), and 56% on a commercial scale (over 50,000 birds). This distribution indicates a significant proportion of large-scale operations, suggesting that many farmers are leveraging economies of scale to enhance productivity and profitability.

The result shows that 42% of the broiler farmers have attended training programs, while 58% have not. Housing systems used by broiler farmers are split between open systems (54%) and closed systems (46%). This balance reflects varying preferences and possibly different approaches to managing environmental conditions, disease control and overall farm management. Regarding farm status, 34% of farms operate under non-contract farming, while 66% engage in contract farming. The prevalence of contract farming indicates a preference for the stability and support it provides, including guaranteed markets and potentially better access to resources and financing.

Broiler production metrics

Table 2 exhibits the average production metrics of broiler farms in Peninsular Malaysia. The average number of day-old chicks (DOC) per production cycle is 78,814 birds. The cost of each DOC is RM2.46, representing a significant input expense for farmers. The average mortality rate among broiler chickens stands at 6%, indicating that a significant proportion of chicks do not survive to maturity. This percentage is notably higher than the 4.3% average mortality rate reported in a study by Shaban and Alabboodi (2019). Similarly, a study by Abdurofi et al. (2017) exhibits regional differences with the East Coast experiencing a mortality rate of 5.1% and the other regions ranging around 3.6 – 4.3%. This high mortality rate observed in this study could be attributed to disease outbreaks affecting certain farms leading to higher

than usual mortality. In terms of the final weight of the broiler, the result shows that broilers reach a final weight of 2.12 kg by the end of the production cycle.

The feed conversion rate (FCR), a key indicator of feed efficiency, is 1.62 kg of feed per kilogram of bird weight, highlighting the effectiveness of feed utilisation in the growth process. The selling price of broilers is another crucial economic factor, with an average market price of RM5.96 per kilogram, influencing the profitability of broiler farming operations. These metrics collectively provide valuable insights into the operational performance of broiler farms in the region, serving as essential benchmarks for assessing and improving production efficiency and profitability in the Malaysian broiler industry.

Table 2. Average production metrics of broiler farms in Peninsular Malaysia

Variables	Value
Num of DOC per cycle	78,814
Price of DOC (RM)	2.46
Mortality rate (%)	6
Average weight of broiler (kg)	2.12
Feed conversion rate (kg of feed/ kg of bird)	1.62
Broiler selling price per kg (RM)	5.96

Source: Survey data 2023

Broiler cost of production

A detailed breakdown of the average cost of production per cycle for broiler farms in Peninsular Malaysia is presented in *Table 3*. The table presents the list of average cost items used in broiler operation which comprises costs per farm, costs per kilogram of broiler produced and their percentage contributions to the total cost.

The primary cost component is feed, which constitutes RM670,771.66/ farm, RM4.11/kg and 70.63% of the total production cost, making it the most significant expense in broiler farming. The issue of high feed costs has been a longstanding challenge in the industry and continues to be a major concern. Furthermore, Malaysia's heavy reliance on imported feed further exacerbates the problem, as global price fluctuations and supply chain disruptions create additional uncertainties. Following feed costs, the expense for day-old chicks amounts to RM193,529.33 per farm and RM1.19 per kilogram, accounting for 20.38% of the total cost. Labour charges are relatively modest, amounting to RM24,315.75 per farm, RM0.15/kg and 2.56% of the overall cost.

Other notable expenses include medicine and vaccines (RM16,881.47/farm, RM0.10/kg, 1.78%), utilities (RM12,702.20/ farm, RM0.08/kg, 1.34%), and bedding costs (RM9,406.50/farm, RM0.06/kg, 0.99%). Additional minor costs encompass effective microorganisms (EM) costs (RM3,298.98/ farm, RM0.02/kg, 0.35%), maintenance (RM7,958.08/farm, RM0.05/kg, 0.84%), catcher fees (RM4,317.64/farm, RM0.03/ kg, 0.45%) and miscellaneous expenses (RM4,975.46/farm, RM0.03/kg, 0.52%).

The total variable cost of production is RM948,157.07/farm, RM5.81/kg, representing 99.84% of the total production cost. When including the depreciation of fixed costs, which are RM1,508.91/farm, the overall cost of production reaches RM949,665.98/farm which indicates the cost per kilogram broiler in Peninsular Malaysia is RM5.82/kg.

Broiler profitability (nett return)

Table 4 provides the average net return to broiler production in Peninsular Malaysia. The table includes key financial metrics such as the number of broilers sold, the price of broiler per kilogram, the quantity and price of dung sacks sold, total revenue, total cost, and the net return result. The average quantity of broilers sold is 163,285 kg, with a selling price of RM5.96/kg. This sale generated a substantial revenue of RM973,178.60. In addition to broiler sales, the farm also generated income from the

Table 3. Average cost of production of broiler farms in Peninsular Malaysia

Cost items	Cost per farm (RM)	Cost per kg (RM/kg)	Percentage (%)
Day old chicks	193,529.33	1.19	20.38%
Feeds	670,771.66	4.11	70.63%
Labour charges	24,315.75	0.15	2.56%
Medicine and vaccines	16,881.47	0.10	1.78%
Utilities	12,702.20	0.08	1.34%
Bedding costs	9,406.50	0.06	0.99%
EM ost	3,298.98	0.02	0.35%
Maintenance	7,958.08	0.05	0.84%
Catcher	4,317.64	0.03	0.45%
Miscellaneous (e.g., cleaning and transport)	4,975.46	0.03	0.52%
Total variable cost	948,157.07	5.81	99.84%
Depreciation of fixed cost	1,508.91	0.01	0.16%
Total cost	949,665.98	5.82	100%

Source: Survey data 2023

sale of chicken dung. The average total quantity of chicken dung produced was 2,307 sacks, with each sack sold for an average price of RM2.00. This resulted in additional revenue of RM4,614.00. Combining the revenue from broiler sales and chicken dung, the total revenue amounted to RM977,792.60.

The average total cost of production, as detailed in *Table 3*, amounts to RM949,665.98. Subtracting the average total cost from the average total revenue yields an average net return of RM28,126.62. This equates to a profit of RM0.17/kg of broiler sold. This net return represents the profit earned by broiler farmers after accounting for all production expenses. The positive net return indicates that broiler production in Peninsular Malaysia is financially viable, with revenue exceeding the costs incurred.

Broiler input-output ratio

Table 5 presents the value of the input-output ratio in broiler production in Peninsular Malaysia. This ratio was measured to evaluate the broiler farm's return on investment and efficiency

Table 4. Average net return of broiler farm in Peninsular

Items	Value
Quantity broiler sold (kg)	163,285 kg
Price/kg (RM)	RM5.96
Revenue (a)	RM973,178.60
Chicken dung (quantity of sack)	2,307 sacks
Price/sack (RM)	RM2.00
Revenue (b)	RM4,614.00
Total revenue (a+b) (RM)	RM977,792.60
Total cost (RM)	RM949,665.98
Net return (RM)	RM28,126.62

Source: Survey data 2023

(Isa et al. 2019). The total input cost for broiler production is RM949,665.98 while the total output (revenue) generated is RM977,792.60. The input-output ratio, calculated as the ratio of output cost (revenue) to input cost (total cost of production), is 1.03. This indicates that for every RM1.00 spent on production, RM1.03 is earned in revenue.

The input-output ratio of 1.03 signifies a positive return on investment, demonstrating that broiler production in Peninsular Malaysia is marginally profitable. The ratio confirms that the revenue generated slightly exceeds the costs incurred, indicating an efficient and economically viable production process. However, this ratio is somewhat lower compared to previous studies by Abdurofi et al. (2017), Shaban and Alabboodi (2019) and Isa et al. (2019). This difference might be due to the narrower profit margin caused by the high cost of production in 2023, as COVID-19 impacts have led to higher input prices. Specifically, the cost of imported feed (e.g., corn and soybean) has risen significantly due to supply issues, high demand from China, post-COVID-19 policy changes, the Ukraine-Russia war, rising oil and transportation costs, climate change, and foreign exchange impacts (Ben Hassen & El Bilali 2022; World Bank 2022).

Table 5. Input-output ratio for broiler production in sample farms in Peninsular Malaysia

Items	Value (RM)
Input cost	949,665.98
Output cost	977,792.6
Ratio	1.03

Source: Survey data 2023

Conclusion

This study provides a detailed analysis of the broiler farming industry in Peninsular Malaysia, highlighting key socio-economic characteristics, production metrics, cost structure, and profitability. Findings reveal a sector dominated by experienced and older male farmers, with a significant reliance on commercial-scale operations to achieve economies of scale. Despite efficient feed conversion rates, the industry faces challenges such as high mortality rates (the best and worst) and high production costs, mainly due to rising feed prices driven by global supply chain disruptions and geopolitical factors. An input-output ratio value of 1.03 indicates a marginal profit in broiler production with revenue exceeding cost. This highlights the need for strategic interventions to improve the economic viability and sustainability of the sector.

Recommendation

Several strategic measures are recommended to ensure the long-term sustainability and profitability of broiler farming in Peninsular Malaysia. First, targeted training programs, financial support such as tax exemption and matching for close house infrastructure, and awareness campaigns are essential to attract young farmers and encourage their participation in the broiler industry.

Second, adopting advanced agricultural technologies and optimising feed use can significantly reduce production costs and improve efficiency. Since feed costs comprise nearly 71% of total production expenses, innovation in developing cost-effective formulas is essential to reduce overall costs. Reducing feed costs not only increases farm income but also has the potential to stabilise and lower broiler prices while benefiting consumers and increasing market competitiveness. Third, implementing good disease management practices and diversifying input supply sources can reduce risk and stabilise production. Finally, advocating for supportive policies and strengthening contract farming can provide farmers with more stability and better market access.

References

Abdurofi, I., Ismail, M. M., Kamal, H. A. W. & Gabdo, B. H. (2017). Economic analysis of broiler production in Peninsular Malaysia. International Food Research Journal, 24(2), 761.

Anderson, K. (2022). Trade-related food policies in a more volatile climate and trade environment. Food Policy, 109, 1–45.

Azizi, M. N., Loh, T. C., Foo, H. L. & Teik Chung, E. L. (2021). Is palm kernel cake a suitable alternative feed ingredient for poultry animals, 11(2), 338. https://doi.org/10.3390/ani11020338

Bandara, R. M. S. R. K. & Dassanayake, K. M. L. U. (2006). Measuring economic efficiency in broiler farming: A stochastic frontier production function approach. Livestock Research for Rural Development, 18(1), 1–9.

Ben Hassen, T. & El Bilali, H. (2022). Impacts of the Russia-Ukraine war on global food security: towards more sustainable and resilient food systems?. Foods, 11(15), 2301.

Debertin, D. L. (2012). Agricultural production economics (2nd ed.). Upper Saddle River, NJ: Pearson Education.

Department of Statistics Malaysia. (2024). GDP Poultry. Department of Statistics Malaysia. Retrieved August 18, 2024, from https://tableau.dosm.gov.my/t/BPPAS-BahagianPerangkaanPertaniandanAlamSekitar/views/Poultrydashboard/GDPPOULTRY?%3Aembed=y&%3AisGuestRedirectFromVizportal=y&%3Atab=false&%3Atoolbar=false

Department of Statistics Malaysia. (2022). Laporan Kajian Khas Kos Pengeluaran Ayam dan Telur 2022. Department of Statistics Malaysia. Available at: https://library.dosm.gov.my/cgi-bin/koha/opac-detail.pl?biblionumber=105726.

Department of Veterinary Services (DVS) (2024). Perangkaan Ternakan (Various Years). Retrieved on 15 March 2024 at https://www.dvs.gov.my/index.php/pages/view/1876

Food and Agriculture Organization. (2024). FAOSTAT Statistical Database. Retrieved January 11, 2024, from https://www.fao.org/faostat/en/#data/QCL

Ijaz, M., Yar, M. K., Badar, I. H., Ali, S., Islam, M. S., Jaspal, M. H., ... & Guevara-Ruiz, D. (2021). Meat production and supply chain under COVID-19 scenario: Current trends and future prospects. Frontiers in Veterinary Science, 8, 660736.

Isa, A. H. M., Ismail, M. M., Samsuddin, N. S. & Abdurofi, I. (2019). Profitability of broiler contract farming: A case study in Johor and Sabah. International Journal of Business and Society, 20(2), 521–532.

Nor, N. M., Masdek, N. N. M. & Maidin, M. K. H. (2015). Youth inclination towards agricultural entrepreneurship. Economic and technology management review, 10, 47–55.

OECD (2022). International trade during the COVID-19 pandemic: Big shifts and uncertainty. Retrieved on 22 October 2022 through https://www.oecd.org/coronavirus/policy-responses/international-trade-during-the-covid-19-pandemic-big-shifts-and-uncertainty-d1131663/

Shaban, N. S. & Alabboodi, A. S. (2019). Explain why Malaysian broiler industry facing production problem. IJAR, 5(1), 301–308.

Tangendjaja, B. (2013). Analisis dan identifikasi faktor-faktor utama yang mempengaruhi kinerja teknis, ekonomi, dan finansial usaha peternakan broiler. Agribisnis dan Agroindustri, 1(2), 148–161.

Tortajada, C. & Lim, N. S. W. (2021). Food security and COVID-19: impacts and resilience in Singapore. Frontiers in Sustainable Food Systems, 5, 740780.

United Nations Statistics Division (2022). UN Comtrade Database. Retrieved September 15, 2022, from https://comtradeplus.un.org/TradeFlow

Widiati, R., Herdayanto, Y. & Al-Farisi, A. M. (2019). Cost-Benefit Analysis of Broiler Breeder Farming In South Kalimantan. Journal of Economics and Policy Studies, 1(1), 47–55.

Worldbank (2022). Agriculture and Food. 30 September 2022. Retrieved on 21 October 2022 through https://www.worldbank.org/en/topic/agriculture/overview

Abstrak

Permintaan daging ayam di Malaysia kekal tinggi, menjadikannya penting untuk menilai cabaran industri ini secara berkala bagi mengekalkan daya saing dan memastikan kelestariannya. Di sebalik permintaan yang kukuh, terdapat isu yang berterusan berkaitan pengurusan kos dan keuntungan dalam penternakan ayam pedaging. Kajian sedia ada menunjukkan bahawa kenaikan kos makanan dan turun naik pasaran telah memberi kesan yang ketara terhadap keuntungan justeru memerlukan analisis terkini untuk mencerminkan landskap ekonomi semasa. Kajian ini menangani keperluan tersebut dengan menilai status kewangan penternak, kos pengeluaran, jumlah pendapatan bersih, dan nisbah input-output dalam pengeluaran ayam pedaging di seluruh Semenanjung Malaysia. Menggunakan kaedah pensampelan rawak berstrata, data daripada 241 ladang ayam pedaging telah di analisis untuk memberi pandangan tentang struktur kos semasa dan cabaran keuntungan yang dihadapi oleh industri. Statistik deskriptif dan belanjawan ladang berfungsi sebagai alat analisis utama. Dapatan kajian menunjukkan bahawa penternak ayam pedaging di Semenanjung Malaysia menghadapi cabaran besar berkaitan dengan kos pengeluaran yang tinggi didorong oleh harga makanan yang tidak menentu. Kajian ini menunjukkan bahawa kos makanan merupakan bahagian terbesar daripada jumlah perbelanjaan pengeluaran, menekankan peranan utamanya dalam mempengaruhi keuntungan. Walaupun menghadapi cabaran ini, industri tetap mengekalkan margin keuntungan walaupun agak kecil, seperti yang ditunjukkan oleh nisbah input-output sebanyak 1.03. Hal ini bermakna bagi setiap RM1.00 yang dibelanjakan untuk pengeluaran, RM1.03 diperoleh sebagai hasil, menunjukkan keupayaan industri untuk mencapai keuntungan dalam keadaan ekonomi semasa. Secara keseluruhan, kajian ini menekankan kepentingan pengurusan kos pengeluaran bagi meningkatkan keuntungan dan kelestarian dalam penternakan ayam pedaging di seluruh Semenanjung Malaysia.