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## Digital Marketing Innovation to Enhance Sheep (*Ovis aries*) Marketing Performance: A Case Study at PS Tunas Muda, Tuban Regency

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### ABSTRACT

This study aims to analyze the utilization and optimization of TikTok and Facebook as Digital Marketing strategies to increase the sales volume of sheep (*Ovis aries*) at PS Tunas Muda Farm, Tuban Regency. The study was motivated by the use of conventional marketing methods, which limited market reach and resulted in suboptimal sales volume. This research employed a quantitative descriptive method using primary and secondary data sources. Data were collected through observation, interviews, and documentation. The data were analyzed using descriptive analysis, a One Way ANOVA test to determine differences in sales volume before and after the implementation of Digital Marketing, and a business feasibility analysis including production costs, revenue, profit, R/C Ratio, B/C Ratio, Break Even Point (BEP), and Return on Investment (ROI). The results indicate that the implementation of Digital Marketing through TikTok and Facebook increased promotional reach, Engagement, and sales conversion. However, the One Way ANOVA test showed a significance value of 0.620 > 0.05, indicating that there was no statistically significant difference in sheep sales before and after the implementation of Digital Marketing. Although there was a numerical increase in sales volume after the strategy was applied, the increase was not statistically significant. Financial analysis shows that the sheep farming business at PS Tunas Muda is feasible to develop, as indicated by an R/C Ratio of 1.37 (>1), a B/C Ratio of 0.37 (>0), a BEP production level of 42 sheep, a BEP price of IDR 1.145.840, and an ROI of 37%, reflecting a positive rate of return. The marketing margin analysis also indicates a more efficient profit distribution after the optimization of digital promotion. Thus, the implementation of Digital Marketing through TikTok and Facebook effectively expanded market reach and supported business feasibility, although it did not produce a statistically significant increase in sales volume.

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### Introduction

The livestock sector plays an important role in Indonesia's economy, particularly as a source of animal protein. Sheep farming has strong development potential due to its adaptability, simple management, and resistance to disease. In 2024, the sheep population in East Java reached 609,817 heads (BPS, 2024), while Tuban Regency contributed 14,358 heads (BPS, 2024). The increasing population has intensified market competition, requiring more effective marketing strategies to improve sales performance.

In the transition from Industry 4.0 to Society 5.0, digital transformation has become essential in business development. Digital marketing, utilizing internet-based platforms and social media, enables wider market reach, targeted segmentation, and cost-efficient promotion (Rudy et.,al 2024). Globally, social media users exceeded 5.24 billion in early 2025 (Backlinko 2025).. In Indonesia, TikTok reached 194.37 million users, while Facebook recorded more than 122.4 million active users (Data Indonesia, 2025). These platforms provide significant opportunities for agribusiness promotion due to their broad audience coverage and advanced targeting features. PS Tunas Muda, a sheep farm with a capacity of 300 heads located in Tuban Regency, still relies on conventional word-of-mouth marketing. This limited approach restricts market expansion and reduces competitiveness compared to businesses adopting digital strategies. Previous studies highlight the effectiveness of Facebook and TikTok in strengthening consumer engagement in agribusiness; however, research combining both platforms for sheep farming promotion remains limited (Desy et.,al 2023).

Therefore, this study aims to analyze the implementation of digital marketing innovation using TikTok and Facebook to enhance sales volume and marketing performance at PS Tunas Muda. The findings are expected to contribute to improving marketing efficiency, competitiveness, and financial performance in small-scale sheep agribusiness.

### State of the Art

Research on digital marketing in the agribusiness sector has shown significant development in recent years, particularly in the utilization of social media platforms to improve marketing performance and consumer engagement. Several studies indicate that Facebook marketing contributes to increasing brand awareness and strengthening consumer interaction in agricultural and livestock businesses (Lembong et al., 2023). In addition, TikTok has emerged as a rapidly growing platform with strong potential to build engagement through short-form creative video content, especially among Generation Z and millennial consumers (Febri Annisa et al., 2024).

The concept of Society 5.0 emphasizes the integration of human-centered technology in economic activities, including digital-based marketing strategies (Hendarsyah, 2019). Digital marketing is considered more efficient than conventional marketing due to its ability to provide broader market access, detailed audience segmentation, measurable performance indicators, and lower promotional costs (Avita et al., 2023). Previous studies also reveal that marketing efficiency remains a challenge in small-scale livestock enterprises, particularly in terms of distribution channels and margin optimization (Shao et al., 2020; Syahfitri et al., 2022).

Although prior research has examined the effectiveness of individual platforms such as Facebook or TikTok in agribusiness marketing, studies that integrate both platforms simultaneously in sheep farming enterprises are still limited, particularly in the Indonesian context. Most existing studies focus on general agribusiness commodities rather than specifically on sheep (*Ovis aries*) farming businesses.

Therefore, this research fills the gap by analyzing the combined implementation of TikTok and Facebook as an integrated digital marketing strategy in a sheep farming enterprise. The novelty of this study lies in its focus on small-scale sheep agribusiness, the measurement of marketing performance improvements, and the inclusion of financial feasibility analysis to evaluate business sustainability. This approach provides a more comprehensive understanding of how digital marketing innovation can enhance competitiveness and profitability in livestock enterprises.

### Method

This research was conducted at PS Tunas Muda Farm, Tuban Regency, East Java, Indonesia. The study was carried out from January to March 2025. The research aimed to analyze the implementation of digital marketing strategies in increasing sales performance and market reach of sheep (*Ovis aries*). This study employed a quantitative descriptive method with a case study approach. The research focused on evaluating the effectiveness of digital marketing strategies applied by PS Tunas Muda, including social media marketing, marketplace utilization, and live streaming promotion.

### Data Types and Sources

The data used in this study consisted of primary and secondary data:

1. Primary data were obtained through:

Primary data were collected through direct observation of digital marketing activities, structured interviews with farm owners and marketing administrators, and documentation of sales reports before and after the implementation of digital marketing strategies.

2. Secondary data were obtained from:

Secondary data were obtained from farm production records, financial reports, as well as related scientific journals and supporting literature relevant to the research topic.

### Research Variables

The variables observed in this study included:

1. Digital marketing platforms used (Facebook, Instagram, TikTok, WhatsApp Business)
2. Content intensity (posting frequency per week)
3. Audience engagement (likes, comments, shares, views)
4. Sales volume (heads/month)
5. Revenue (IDR/month)
6. Market coverage (local, inter-city, inter-province)

### Data Collection Procedure

The stages of the research are presented in Figure. The research process began with the identification of marketing problems at PS Tunas Muda, followed by an in-depth observation of the existing conventional marketing system. Upon understanding the field conditions, a digital marketing strategy was implemented as an innovative step to expand promotional reach. During this implementation phase, engagement metrics and actual sales data were intensively monitored. The collected data were then tabulated and subjected to statistical analysis to ensure accuracy. The final stage of this process involved a comprehensive evaluation of marketing effectiveness to determine the extent to which digital innovation improved the farm's business performance.

### Data Analysis

Data were analyzed using descriptive statistical analysis and comparative analysis. Sales performance before and after digital marketing implementation was compared using percentage growth analysis. This study was conducted to compare sheep sales volume among conventional sales methods, Digital Marketing through TikTok, and Digital Marketing through Facebook. The analytical method used was One-Way ANOVA, as the study involved more than two groups with one dependent variable, namely sales volume. The One-Way ANOVA test was applied to determine whether there were significant differences in the average sales volume among the three marketing methods. Basis for Decision Making in the One-Way ANOVA Test:

1. Determine the significance level ( $\alpha$ ), commonly set at 0.05.
2. Observe the p-value (Sig.) from the ANOVA results:

- If  $p \leq \alpha \rightarrow$  Reject  $H_0 \rightarrow$  there is a statistically significant difference in the mean among the groups.
- If  $p > \alpha \rightarrow$  Fail to reject  $H_0 \rightarrow$  there is no statistically significant difference in the mean among the groups.

Business feasibility analysis is an important step that needs to be conducted before starting or continuing a business. It is essential for several reasons, such as minimizing risks, ensuring optimal profitability, clarifying target objectives, and supporting accurate decision-making. If required, effectiveness analysis was measured using Return on Investment (ROI):

$$ROI = \frac{\text{Net Profit}}{\text{Marketing Cost}} \times 100$$

The results were then interpreted to determine the effectiveness and contribution of digital marketing strategies toward increasing sheep sales and expanding market reach. The research flow consisted of: Problem Identification  $\rightarrow$  Strategy Implementation  $\rightarrow$  Digital Content Production  $\rightarrow$  Online Promotion  $\rightarrow$  Sales Monitoring  $\rightarrow$  Performance Evaluation

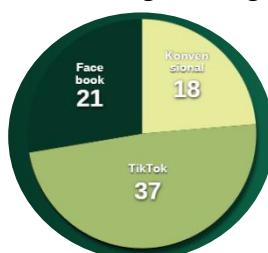
## Results and Discussion

### 1. Utilization and Optimization of TikTok and Facebook Social Media

The implementation of digital marketing strategies at PS Tunas Muda focused on optimizing visual content and direct interaction on TikTok and Facebook. On TikTok, the strategy emphasized creating creative short videos to leverage the "For You Page" (FYP) algorithm, using trending audio, and utilizing the Live Streaming feature to showcase real-time livestock conditions. Tunas Muda Farm experienced significant growth in its TikTok followers, increasing from 0 to 1,345 within a specific period. The majority of its followers are male (47%), while females comprise 33% of the total audience. In terms of age, the largest group is the 25-34 age group (45%), followed by 18-24 age groups (37.1%), 35-44 age groups (10.1%), 45-54 age groups (4.1%), and those 55 and older (3.7%). Geographically, the majority of followers come from Indonesia (73.2%) and other countries (22.9%).

Meanwhile, on Facebook, optimization was achieved through the Marketplace feature, livestock community groups, and official Fanpages to build a professional brand image. The growth of Facebook followers from a new account with 0 to 807 followers demonstrates increased visibility and the effectiveness of the implemented digital marketing strategy. In the initial stages, the account was still in the introduction phase (brand awareness), so it lacked reach and engagement. With consistent content uploads, use of promotional features, and active engagement with the audience, the number of followers gradually increased. The increase to 807 followers reflects public interest in the content presented and increased trust in the account. This indicates that the implemented digital marketing strategy has been able to build a new audience, expand marketing networks, and increase online sales potential. The results indicate a significant expansion in promotional reach compared to conventional word-of-mouth methods, alongside increased audience engagement through comments and direct messages.

### 2. Comparison of Conventional Marketing and Digital Marketing on Sales Volume



In conventional sales, 18 sheep were sold, in Facebook sales, 21 sheep were sold, and in digital marketing, TikTok, 37 sheep were sold, where in comparison between the three methods, TikTok was the one that sold the most.

Data analysis reveals a difference in average sales volume across different marketing channels. Descriptive analysis shows that the average sales via TikTok (4.63) were higher than conventional methods (3.60) and Facebook (2.63). Although there was a numerical increase in sales volume following the digital strategy implementation, the *One-Way ANOVA* test resulted in a significance value of 0.620 ( $> 0.05$ ). This indicates that, statistically, there was no significant difference in average sales during the research period. Factors contributing to this result include sluggish market conditions in January, the timing of the study which did not coincide with peak seasons (such as Eid al-Adha), and the early stage of consumer adaptation to the new platforms. Statistically, the hypothesis stating a difference in the influence of marketing strategies on sales cannot be accepted. These results indicate that the implementation of digital marketing during the study period did not significantly increase sales compared to conventional methods. However, in real-world conditions, sheep sales volume did increase, although the increase was not significant.

Based on the above conclusions, the insignificant difference in average sales between conventional and digital marketing methods may be influenced by several external and internal factors. First, sheep prices at the time of the study were experiencing a market downturn (Syafitri et.,al 2022). Prices tending to stagnate or even decline have weakened consumer purchasing power, so increased promotional strategies have not been able to directly drive increased sales volume. In sluggish market conditions, consumer purchasing decisions are generally more influenced by immediate needs than by promotional activities.

### 3. Analysis of Sheep Marketing Margin

Marketing margins at PS Tunas Muda demonstrate improved efficiency through digital marketing channels. Based on the marketing margin table, the purchase price of sheep at the farmer level is IDR 45,000/kg and the selling price at the consumer level is IDR 70,000/kg, resulting in a marketing margin of IDR 25,000/kg. This margin represents the price difference between producers and consumers, reflecting added value, marketing costs, and distribution profits. The magnitude of this margin indicates the price differentials formed within the marketing chain and can be used as an indicator to assess the efficiency of the sheep marketing system. In the conventional system, distribution channels tend to be longer and involve more marketing intermediaries, which widens the price gap between the producer (farmer) and the end consumer. Conversely, through digital promotion, the farm can interact directly with consumers, thereby shortening the distribution chain. This direct interaction contributes positively to promotional cost efficiency and overall sales turnover.

### 4. Financial Analysis of the Sheep Farming Business

Based on the financial analysis, the sheep farming business at PS Tunas Muda is declared feasible and profitable for further development. The feasibility parameters obtained are as follows:

- **R/C Ratio:** 1.37 ( $> 1$ ), meaning every IDR 1.00 of expenditure generates IDR 1.37 in revenue.
- **B/C Ratio:** 0.37 ( $> 0$ ).
- **BEP Production:** 42 head of sheep.
- **BEP Price:** IDR 1,145,840.
- **Return on Investment (ROI):** 37% (or 53% based on specific digital investment metrics), indicating a positive and competitive rate of return compared to bank interest rates.

### 5. Implementation of the Business Plan Based on Research Results

The implementation of the business plan at the PS Tunas Muda farm, projected through a business unit named NR Farmstead, is designed as a modern agribusiness transformation strategy located in Kradenan Village, Palang District, Tuban Regency. The primary focus of this business is the high-quality

local sheep fattening enterprise to satisfy various market segments, ranging from daily needs, celebrations, and \*aqiqah\* to the peak momentum of the Eid al-Adha sacrifice. With a target production capacity of 100 head per three-month fattening period, the operational side of this venture relies on a modern stilt-house housing system to ensure feed efficiency and strict biosecurity standards. This strategy is expected to increase product added value while ensuring a sustainable supply of healthy and measurable livestock.

Regarding the marketing aspect, the business plan synergistically integrates digital and conventional approaches through an STP (Segmenting, Targeting, Positioning) analysis that emphasizes consumers in the Tuban area, positioning the brand as a provider of quality sheep with reliable service (Rusdiana, 2018). Digital strategies are optimized via TikTok and Facebook by leveraging creative content such as educational videos, entertainment, and livestock reviews, all supported by a systematic Content Planner to maintain brand awareness. On the other hand, offline marketing remains active through face-to-face interactions and involvement in local farmer communities. This framework is further strengthened by the implementation of the Business Model Canvas (BMC), which maps key elements such as value propositions through easy access to social media information and the utilization of competent human resources in livestock management.

Financial analysis indicates that the NR Farmstead business plan is highly feasible and economically profitable, achieving an R/C Ratio of 1.37, meaning every one-rupiah expenditure generates a revenue of 1.37 rupiah. Furthermore, the Return on Investment (ROI) reaches 37%, with a Break-Even Point (BEP) at a production level of 42 head or a selling price of IDR 1,145,840 per head. To ensure business sustainability against market fluctuations and operational risks such as livestock diseases, the plan includes mitigation steps through consistent digital promotion and preventive livestock health management (Tiana et.al 2022). By strengthening digital branding and efficient operational management, this business plan aims to create an independent livestock business model that does not rely solely on seasonal demand.

### Conclusions

The implementation of digital marketing innovation through Facebook and TikTok at PS Tunas Muda Farm has demonstrated its potential to expand promotional reach beyond conventional word-of-mouth methods. The utilization of video content, product visualization, and direct consumer interaction increased engagement and attracted prospective buyers. Although comparative analysis indicated that digital marketing tended to improve sales volume, the one-way ANOVA test showed no statistically significant difference between conventional and digital marketing methods during the study period. This result may have been influenced by market stagnation in sheep prices, the timing of implementation outside major religious demand periods such as Eid al-Adha, and the relatively new adoption of social media marketing within the local market. Digital marketing also contributed to reducing marketing chain complexity, thereby improving pricing efficiency and increasing sales turnover. Financial feasibility analysis revealed that the business is viable for development, as indicated by an R/C Ratio of 1.37, B/C Ratio of 0.37, Break Even Point (BEP) production of 42 heads, BEP price of IDR 1,145,840, and ROI of 37%.

Furthermore, the proposed business plan highlights that sustainable integration of digital marketing strategies can strengthen competitiveness, improve marketing efficiency, and enhance profitability in small-scale sheep agribusiness in the digital era. Future research is recommended to evaluate long-term performance and optimize digital campaign timing aligned with seasonal market demand.

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